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PART III

ENDANGERED SPECIES SCIENTIFIC AUTHORITY

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EXPORT OF BOBCAT, LYNX, RIVER OTTER AND AMERICAN GINSENG

Preliminary Findings and Request for Comment

ENDANGERED SPECIES SCIENTIFIC AUTHORITY

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AGENCY: Endangered Species Scientific Authority.

ACTION: Notice.

SUMMARY: This notice summarizes current findings of the Endangered Species Scientific Authority (ESSA) on commercial international export of certain Appendix II species under the Convention on International Trade in Endangered Species of Wild Fauna and Flora. In particular, notice is given of preliminary ESSA findings on a State-by-State basis for the 1977–78 season for the international commercial export of bobcat (*Lynx rufus*, excluding the Mexican bobcat, *L. r. escuinapae*), lynx (*Lynx canadensis*), river otter (*Lutra canadensis*), and American ginseng (*Panax quinquefolius*). Because the export of Appendix II specimens may be permitted only if the ESSA is able to find that the export will not be detrimental to the survival of the species, and because the biological, commercial, and legal classification of the named species varies among the States, a State-by-State analysis was considered necessary. It is hoped that this notice will encourage comment and the submission of substantive information, which may be used to supplement or modify the conclusions drawn herein.

DATE: All interested persons are invited to comment on these preliminary findings at any time. Comments received by October 31, 1977 will be considered in a general republication of ESSA findings within the next few months. However, the ESSA will publish revised findings at any time if new information indicates that modification of particular findings are appropriate.

ADDRESS: Comments should be addressed to the Executive Secretary, Endangered Species Scientific Authority, 18th and C Streets, NW., Washington, D.C. 20240.

FOR FURTHER INFORMATION CONTACT:

Dr. William Y. Brown, Executive Secretary, Endangered Species Scientific Authority, 18th and C Streets NW., Washington, D.C. 20240, (202–343–5687).

BACKGROUND

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (Convention) and its implementing regulations, 50 CFR Part 23, control international trade in animal and plant species included in each of three Appendices, listed in § 23.23. It is emphasized that the Convention Appendices are distinct from the list of species issued under the Endangered Species Act of 1973, 16 U.S.C. 1531–1543. Whereas listings under the Act include species endangered by any factor, species on the Convention Appendices must be actually or potentially endangered by international trade. Listed in Appendix II are generally those species not necessarily now threatened with extinction, but which may become so unless trade in them is subject to strict regulation.

The Convention required the establishment of a Scientific Authority whose purpose is to insure the scientific soundness of governmental decisions concerning trade in listed species of plants and animals. Therefore, the Endangered Species Scientific Authority (ESSA) was established by Executive Order 11911 on April 13, 1976. On July 11, 1977, the ESSA published an Interim Charter and other information essential to its operation (42 FR 35799). In that notice, the ESSA requested interested persons to comment on the Interim Charter as well as to provide biological and trade information on Convention species.

Before the Federal Wildlife Permit Office of the U.S. Fish and Wildlife Service, that serves as the U.S. Management Authority (MA) for the Convention, can issue permits for foreign export of Appendix II species taken from the wild, the ESSA must first find and advise the MA that the export will not be detrimental to the survival of the species (Convention, Article IV 2(a)). The ESSA has established in its Interim Charter the following general criteria for determining whether an export (or purpose of import or introduction from the sea) will not be detrimental to the survival of a species:

1. Whether similar export, import or introduction from the sea has occurred in the past, and has not reduced the numbers or distribution of the species, nor caused signs of ecological or behavioral stress within the species, or in other species of the affected ecosystem.

2. Whether life history parameters of the species and the structure and function of its ecosystem indicate that the present frequency of export, import, or introduction from the sea will not appreciably reduce the numbers or distribution of the species, nor cause signs of ecological or behavioral stress within the species or in other species of the affected ecosystem.

3. Whether such export, import, or introduction from the sea is expected to increase, decrease, or remain constant in frequency.

(ESSA Interim Charter, Article IV. C., 42 FR 35801)

The U.S. Fish and Wildlife Service is currently reviewing the status of the bobcat, lynx, river otter, and American ginseng to determine whether they should be proposed as Endangered or Threatened under the Endangered Species Act of 1973. On July 13, 1977 the Service published a notice of review for the bobcat and the lynx (42 FR 35996); on July 28, 1977 the Service published a notice of review for the river otter (42 FR 38395); and on August 11, 1977 the Service published a notice of review for the American ginseng (42 FR 40823). In all three of these notices of review the Service requested interested parties to submit comments concerning the status of these species. As indicated in 42 FR 40979–40980 on August 12, 1977, findings of the ESSA on commercial international export of these species for the 1977–78 season will be based on a State-by-State assessment of the status of each species. The variation among the States in species status indicated that such an individualized approach would best give the ESSA the necessary basis for finding whether export would not be detrimental to the survival of the species. The ESSA usually reviews applications on a case-by-case basis, but the large volume of trade in these species calls for general findings. Interested parties were advised in the August 12 Notice that the ESSA would publish a subsequent notice indicating the States or origin from which commercial international export of subsequently obtained pelts and roots must be prohibited by the MA in the 1977–78 season, and indicating the appropriate level of exports of any species for which commercial international export was not initially prohibited. Interested persons were further advised that the ESSA would monitor any export and would notify the MA when it can no longer find that export from particular States will not be detrimental to the survival of the species, and therefore further commercial international exports must be barred by the MA.

The purpose of this notice is to present the ESSA's evaluation of the State-by-State biological status of the four named species, and to state the ESSA's preliminary findings on commercial international export. The ESSA seeks substantive comments which may serve to supplement or modify conclusions drawn from the available information. Of special interest are actual population censuses and trends, recent changes in habitat availability, Statewide trade and the legal status and impact of the international market on the named species. Comments received by October 31, 1977, will be considered in a republication of ESSA findings this Fall. However, these preliminary findings represent the best data available to the ESSA, and although little harvest of these species is expected for the next few months, these preliminary findings are effective immediately to prevent last minute stockpiling of pelts and roots. Because the ESSA cannot find in favor of international export without supporting evidence, foreign export cannot be permitted from States for which sufficient data and adequate regulatory mechanisms are lacking. The ESSA is hopeful that it will have most available information on these species by the end of the comment period, for incorporation into the republication of ESSA findings for 1977–78.

Regulation of bobcat, lynx, and river otter harvest varies considerably from State to State. Hunters, trappers, and dealers usually must be licensed by the State. Although methods of reporting vary from State to State, the most common means are dealer reports of purchases or sales, and surveys based on voluntary trapper reports of take. Such estimates may not accurately reflect the harvest or trends in the harvest (cf.

Colorado and South Dakota State analyses). Analyses of State harvests are further complicated by changes in State regulations, and trapping and hunting seasons. Currently, tagging of pelts is required in only 9 States for bobcat and 5 States for river otters, but several additional States have plans or proposals to implement such systems in the near futore. Several States require tagging of fur shipments but not pelts.

The bobcat is completely protected by 12 States, the lynx by 9 States, and the river otter by 23 States. Most States allowing harvest have defined hunting or trapping seasons.

No States have established seasonal limits on total legal harvest of any of these species.

Few States regulate the harvest of American ginseng. The plant is completely protected by New York State law, except for collecting by private landowners. The plant is also protected by Michigan, although commercial harvest is allowed under State permit. Only the State of Wisconsin has established a collecting season. Certain counties in North Carolina and West Virginia require the consent of the landowner or an authorized agent before American ginseng may be collected. In addition, many States require consent of landowners or approval of authorized State agents for general plant collecting on private or public lands.

It cannot be overemphasized that the development of more adequate management and regulation of these species in many States would lead the ESSA to many more findings in favor of international commercial export than is now possible. Many of the negative ESSA findings in this notice are compelled by the lack of data and adequate regulatory mechanisms, rather than by positive evidence of declining populations. The ESSA strongly encourages the States to establish and enforce biologically justifiable limits on the harvest of these species, and to require tagging of every pelt, and issue documentation on all American ginseng taken in the State. Although in certain instances the ESSA may accept less than this for international export in 1977–78, it is unlikely that less will be accepted in 1978–79. Implementation of these requirements is a vital component of the Federal-State cooperation essential to the success of the Convention.

Pre-notice Specimens

Although these preliminary ESSA findings require the MA to prohibit or restrict international commercial export of pelts and roots taken in 1977–78, the ESSA expressly finds that the export of any pelts and roots of the four named species will not be detrimental to the survival of the species if the pelts and roots were obtained from the wild before the date of this notice.

The ESSA recognizes that exporters may have obtained Appendix II specimens taken during the 1976–77 season, or earlier without awareness of impending export regulations under the Convention, which became generally effective on May 23, 1977. For this reason, and because the impact on wild populations of the 1976–77 season is now past, the ESSA will allow export of this inventory without the same degree of scrutiny that will be required hereafter.

However, because of the danger of claims that pelts and roots taken after the date of this notice were taken before, general ESSA approval of these pre-notice commercial international exports will expire November 1, 1977, giving more than six months for export of the bulk of pelts and roots taken in the 1976–77 season or before, yet requiring discharge of inventory before the 1977–78 season is advanced. After November 1, applications for international export of allegedly pre-notice specimens are discouraged. Such applications will be closely scrutinized on a case-by-case basis and a positive finding will be made only if proof such as State tags or documents issued by authorized State officials leaves no reasonable doubt that the pelts or roots in question were acquired before the date of this notice.

Exporters should note that no ESSA approval is required for exports of pelts and roots under certificates of exemption issued by the MA. These certificates may be issued for various reasons stated in § 23.13 of Title 50, Code of Federal Regulations. Specifically encompassed are cases where pelts or roots were acquired by an exporter before the Convention became effective for the species in question, specifically July 1, 1975 for American ginseng and February 4, 1977 for bobcat, lynx, and river otter, or cases where roots are from cultivated plants.

Findings in General

Prior to November 1, 1977, the ESSA for its part approves commercial international export of all American ginseng roots, bobcat, lynx, and river otter pelts obtained from the wild prior to the date of this notice. In addition, the ESSA approves the commercial international export of river otters and American ginseng taken subsequent to this notice, but only if the applicant can prove that the pelts were obtained from one of the 17 States named below in the river otter section, or from Michigan in the case of American ginseng, and only to the extent authorized in that section for each State. Furthermore, all shipments of pelts and roots must carry as an attachment to the required permit copy the information requested by the joint U.S. Fish and Wildlife Service/ESSA notice of August 12, 1977 (42 FR 40979). For river otter pelts and American ginseng roots taken after the date of this notice, such attachments must state for each pelt and pound of roots the State of origin and the season taken. For American ginseng, copies of Michigan permits must be attached also, accounting for all roots. For pelts and roots taken before the date of this notice, this same information must be stated to the extent that it is known. The ESSA will monitor international exports of river otters and American ginseng taken in authorized States, and if necessary will establish dates for each State based on limits stated herein or in any revised findings, after which no further international commercial exports will be allowed of pelts and roots taken in the 1977–78 season. Findings for 1978–79 will be developed after the close of the 1977–78 season.

Bobcat

Data base. In evaluating the bobcat, the ESSA relied in part on State fur harvest and price reports summarized in Fur Catch in the United States, 1934–70, and more recently on answers to a questionnaire circulated to State agencies by the Fur Resources Committee of the International Association of Fish and Wildlife Agencies, 1970–71 until the present. Data on the number of bobcats killed and recovered per fiscal year were provided by the Federal Animal Damage Control Division (ADC) of the U.S. Fish and Wildlife Service, 1958-present. Other data were obtained from the States and miscellaneous other sources. Little population census information is available (e.g., see 1 and 2).

As noted, fur harvest and price reporting systems vary widely among the States. Therefore, express interstate comparisons should not be made. Where known changes in State policy may have influenced harvest figures, these have been discussed.

Although ADC recovery has been used unqualifiedly by some as an indicator of bobcat population trend (see 3 and 4), the take may reflect certain other factors as well. For example, the number of ADC field people has declined from about 750 in the 1960's to about 400 people at present (see 5). Therefore, it can be inferred that the effort expended has also declined somewhat. To what extent the often tenfold decrease in ADC recovery can be directly attributed to a less than twofold decrease in personnel is unclear.

In addition, it has further been reported that within the past ten years the sheep industry has declined in the West. This occurrence might have led to decline in ADC recovery, because of fewer bobcat-rancher confrontations. Furthermore, ADC implemented a policy change in 1973 which may have influenced recovery at that time, but which would have had no effect on the take in prior years.

Although certain factors not directly related to bobcat abundance may have influenced the ADC recovery, they may not completely account for the general pattern of long-term, substantial decline. Therefore, the ADC figures have been presented as possible but uncertain indicators of bobcat population trend.

Discussion. The bobcat is a secretive animal, widely distributed across the lower forty-eight States, and occupying many habitat types (see 5). In recent years, greatly increased fur prices, far above any measure of inflation, have contributed to an increase in hunting and trapping pressure on the bobcat. In addition, it is generally acknowledged among wildlife professionals that bobcats are easily trapped. For example, Mil-

ton Caroline, of Texas ADC reported (see 6): "Bobcat psychology is such that, unlike coyote, an experienced trapper can cut into the population without much difficulty."

Population dynamics of bobcat in seven northwestern States (Washington, Oregon, Idaho, Montana, Wyoming, North Dakota, South Dakota) are apparently influenced by densities of rabbit, a primary prey, which fluctuate, although not in predictable cycles (see 1 and 3).

Superimposed on this fluctuating pattern is a possible overall decline in population size as reflected by ADC recovery data, from the early 1960's until the present, perhaps brought by decline in available habitat, reaction to control efforts against other predators (especially coyote; see 7), and especially increased hunting and trapping pressure, particularly from the late 1960's until the present (see 3, 8, 9, and 10).

The intensive trapping effort of the 1970's brought by the sudden increase in price has been imposed on populations subject to natural fluctuations in numbers and possibly involved in a general, long-term decline. Although reported harvest in the 1970's has been great in the northwestern States, recent reported harvests do not always reflect the continual rising price. The inability of State harvests to keep and maintain pace with rising price suggests that bobcat may be already overharvested in at least some States.

The status of the bobcat is more variable outside of the northwest, and discussion is deferred to analysis by State. However, the patterns of the northwestern States occur in whole or part in many other States, and several of these States have initiated protective actions. Increasing harvest in California and in the southern States suggests that peak harvest may not yet have been reached, perhaps because of lower price than in the North.

The recent history of soaring price followed by rise and then, in some States, drop or destabilization of harvest, coupled with the apparent general lack of adequate State management of harvest, leaves the ESSA without grounds for approval of any commercial bobcat export for the 1977–78 season.

Findings. For the reasons discussed above and analyzed by State below, the ESSA is unable to find that international commercial export of bobcat pelts or products of animals taken from the wild during the 1977–78 season anywhere in the United States after the date of this notice will not be detrimental to the survival of the species. All Convention export permits presently in force or subsequently issued by the MA must conform with this finding. For bobcat pelts and products of animals taken from the wild before the date of this notice, the ESSA finds that export prior to November 1, 1977 will not be detrimental to the survival of the species, but the ESSA is unable to make this general finding for such exports after that date, for reasons stated above.

Lynx

Data base. In evaluating the lynx, the ESSA has relied in part on State fur harvest and price reports summarized in Fur Catch in the United States, 1934–19, and more recently on answers to a questionnaire circulated to State agencies by the Fur Resources Committee of the International Association of Fish and Wildlife Agences, 1970–71 until the present. Other useful data were obtained from the States and miscellaneous other sources. ADC data on lynx were too scanty to be of any value. As in the case of bobcat, little population census information was available. Use of these data was constrained by the same considerations discussed for the bobcat, above.

Discussion. It has been widely documented that populations of lynx cycle in response to changes in density of snowshoe hare, a major prey (see 11, 12, and 13). Early post partum mortality of kittens (probably starvation related) and reduced conception rates among yearlings may contribute to the decline in lynx population (see 13).

Based on radio tracking data which show that lynx in Alaska range further and spend more time hunting during years of low prey density, Berrie (see 12) postulated that lynx are disproportionately vulnerable to trapping in "low" years. If trapping during those years is not prohibited, he predicted that a progressive dampening in amplitude of the lynx cycle would result, because the time lag between increases of hare and lynx would lengthen. Eventually lynx might be reduced to isolated pockets in the most remote parts of Alaska.

A similar prediction has been made by C. Brand, University of Wisconsin. Brand stated orally that for lynx in Alberta, Canada, the time lag between hare and lynx expansions, which has been about one year in the past, will lengthen due to increased trapping pressure. Unless the season is completely closed during years of lows and expansion, local and regional extinctions may occur. Brand has recommended that the Alberta government close the season now, because this year the population of hares should begin to expand.

More recently, Berrie (see 14) reported that in central Alaska, lynx should be emerging from a low in 1977–78. Although there is apparent asynchrony in cycles between different populations of Alaska lynx (see also 15), the next high is not expected until 1981 or 1982. A price per pelt of up to $350.00 led to an intensive trapping effort last season. This year, with the pipeline construction efforts decreasing, Berrie predicted an increase in the trapping force because of rising unemployment. In addition, Berrie reported that the capacity of individual trappers utilizing snowmobiles and new oil roads has apparently increased three times beyond the capacity of the most ambitious trapper utilizing dogs.

Lynx are much less widely distributed throughout the lower 48 States and have been reported extirpated in Massachusetts, New York, North Dakota, and South Dakota (see 16). Where they do occur, lynx are generally scarce on transient, but have been subject to increased trapping pressure recently due to increased pelt prices. Discussion of lynx status in the lower 48 States is deferred to the analyses by State.

Finding. For the reasons discussed above and analyzed by State below, the ESSA is unable to find that international export of lynx pelts or products of animals taken from the wild during the 1977–78 season anywhere in the United States after the date of this notice will not be detrimental to the survival of the species. All Convention export permits presently in force or subsequently issued by the MA must conform with this finding. For lynx pelts and products of animals taken from the wild before the date of this notice, the ESSA finds that export prior to November 1, 1977 will not be detrimental to the survival of the species, but the ESSA is unable to make this general finding for such exports after that date, for reasons stated above.

River Otter

Data base. In evaluating the river otter, the ESSA has relied in part on State fur harvest and price reports summarized in Fur Catch in the United States, 1934–70, and more recently on answers to a questionnaire circulated to State agencies by the Fur Resources Committee of the International Association of Fish and Wildlife Agencies, 1970–71 until the present. The use of these data was constrained by the considerations discussed under bobcat above. Other useful data were obtained from several States and miscellaneous other sources. As in the cases of bobcat and lynx, no real population censuses were available.

Discussion. River otters are carnivorous mammals occurring in fresh and brackish water. They are widely distributed across the United States, but have experienced range reductions in certain areas (e.g., see 17). Probably because of the river otter's role in the aquatic food chain, varying levels of pesticides have been found in their tissue, but the ultimate effects of these toxins are generally unknown (see 18).

River otter fur has traditionally been highly valued, and the price has been high but relatively constant, excepting a general increase in 1976–77. Besides price incentives, the annual harvest of river otter may reflect availability and price of other more easily taken furbearers (e.g., muskrat and nutria), which may deflect trapper interest. In addition, trapping of river otter is apparently much easier in periods of drought and low water level (see 19). Low water levels often concentrate fish preys of river otter in creeks and rivers where river otters are trapped, leading to increased concentration of river otters in given areas. This increased concentration facilitates greater and possibly excessive harvests.

According to available information, the river otter is fully protected in 23 of 50

States. The river otter has been reported as extirpated in Colorado, Indiana, Kansas, Kentucky, Nebraska, North Dakota, Oklahoma, and West Virginia (see 16). In the remaining States, few patterns in reported harvest have emerged, and discussion of these is deferred to the analyses by State. In numerous States, reported harvests suggest no danger to populations from continued international export: *Provided*, That export is monitored and limited.

Finding. For the reasons discussed above and analyzed by State below, the ESSA is unable to find that international export of river otter pelts or products of animals taken from the wild during the 1977–78 season from 33 of the 50 United States after the date of this notice will not be detrimental to the survival of the species. All Convention export permits presently in force or subsequently issued by the MA for commercial export of river otters originating in these 33 States must conform with this finding.

For the reasons discussed above and analyzed by State below, the ESSA is able to find that international commercial export of river otter pelts or products of animals taken in the following States during the 1977–78 season will not be detrimental to the survival of the species, if State harvests are limited to the number specified:

State:	*Allowable export*
Alaska	2,114
Delaware	37
Georgia	335
Louisiana	3,923
Maine	354
Maryland	165
Massachusetts	68
Michigan	551
Montana	36
New Hampshire	114
New York	272
North Carolina	1,195
Oregon	249
South Carolina	430
Virginia	396
Washington	618
Wisconsin	458

No actual population estimates were available, and the export limits have been based upon reported harvest. Because the fur harvest data used in computation of the appropriate limits are subject to the vaguaries discussed above, the approach used by the ESSA has been conservative, to insure that the specified limits will not be detrimental to the survival of the species.

To compute a statistic indicating what total take for the 1977–78 season in each State would not be detrimental to the survival of the species, the following procedure was used:

1. The mean annual river otter fur harvest of all seasons reported in the State's record was computed. In certain cases, unusually high harvests were not included in computing the mean.

2. Seasons which were followed by at least a 25 percent decrease in take the following season and whose harvests exceeded the mean computed in step 1 were determined.

3. The mean annual river otter fur harvest was recomputed, eliminating the harvests of the seasons determined in step 2 from the calculation. This final mean is considered a safe take for the 1977–78 season, having eliminated the skewing influence of seasons whose takes may have been detrimentally excessive. It has been reported that 99+ percent of raw American wild furs (excluding mink) are exported for processing overseas. Therefore, the final means, as computed above for each State, should serve as adequate export limits.

All Convention export permits presently in force or subsequently issued by the MA for commercial export of river otter originating in these 17 States must conform with this finding. Exports of river otter taken from the wild during the 1977–78 season from these 17 States will be permitted until the ESSA determines that these limits have been reached. Such exports will also be conditional on adequate documentation on State of origin and season of taking.

For river otter pelts and products of animals taken from the wild before the date of this notice, the ESSA finds that export prior to November 1, 1977, will not be detrimental to the survival of the species, but the ESSA is unable to make this general finding for such exports after that date, for reasons stated previously.

American Ginseng

Data base and discussion. American ginseng is closely related to *Panax ginseng*, a plant whose roots have been used as a panacea (hence the generic name) and an aphrodisiac in the Far East for thousands of years (see 20 and 21). The American plant was discovered in Canada by a Jesuit in the early 18th century after he read of the medicinal qualities attributed to the Asian species (see 22, 23, and 24). Soon after the discovery, the Jesuits began to export the American roots to China.

Exports continued until the middle of the 18th century, when a lot collected out of season was shipped to China without proper drying. This resulted in a distrust of the American product causing the market to crash. However, the export trade was soon picked up by the American colonies as American ginseng was discovered with the expanding settlement of Eastern North America. In 1788, Daniel Boone collected more than 12 tons in what is now West Virginia and Kentucky to sell in Philadelphia.

By the late 19th century, much of the original habitat for American ginseng, hardwood forests, had been cut and more than 150 years of collecting pressure had taken its toll. Depletion of the plant prompted enactment of several Province and State statutes in Canada and the United States, to protect private resources and to establish collecting seasons (e.g., Acts and Joint Resolutions of Virginia 1875–1876, Chapter 90, and Acts of West Virginia, 11th session, 1872–73, Chapter 158). In 1898, Nash (see 25) noted: "It (American ginseng) grew abundantly over large areas in these States (he listed 28), but it has been so energetically hunted, and at the same time the forest area has been so diminished, that the supply is greatly reduced. In Canada it is pretty generally distributed throughout Ontario and Quebec, but it has now become rather scarce."

There is a large volume of botanical literature qualitatively documenting the impact of habitat modification and collecting on American ginseng. In 1848, Asa Gray (see 26), in the first edition of "A Manual of the Botany of the Northern United States", noted that the plant was "not common." Eight years later he noted in the second edition (see 27) that it was "becoming rare." In 1931, Harned (see 28) wrote: "At the present rate of foreign shipment it is only a matter of a short time when wild ginseng will be almost as rare in the United States as it is now in China." Other botanists (see 29, 30, and 31) have commented on the increasing rarity of American ginseng.

To meet the demand for the American roots a boom in commercial cultivation took place in the late 19th century. However, by 1904 overproduction, disease, and the slow growth of the plants (up to 2 years to germinate and 5–7 years to maturity), ruined many of the get-rich-quick ginseng farmers.

Despite the numerous initial difficulties encountered, American gingseng was successfully cultivated and continues to be exported along with roots obtained from the wild. The following table shows total exports in pounds of wild and cultivated plants, average prices per pound in dollars, and total exports in dollars.

Table of Exports of American Ginseng from the United States[1]

Year	Pounds exported	Average price	Total value
1822	153,717	$0.42	$313,943
1841	640,967	.71	437,245
1861	346,577	.84	292,699
1871	114,221	1.04	119,385
1881	338,841	1.65	561,545
1891	283,000	3.39	959,992
1901	149,069	5.38	801,672
1911	153,999	7.06	1,089,202
1921	182,000	8.28	1,507,000
1931	265,000	7.26	1,922,000
1941	129,000	8.51	1,098,000
1946	186,000	12.10	2,251,000
1951	76,999	17.58	1,353,282
1954	112,347	15.26	1,714,191
1960	179,523	18.22	3,281,969
1961	131,000	17.65	2,322,000
1962	141,000	17.60	2,481,000
1963	136,000	20.65	2,844,000
1964	138,000	19.65	2,732,000
1965	116,791	23.72	2,887,310
1966	173,405	25.13	4,358,542
1967	146,135	30.84	4,507,152
1968	133,701	32.61	4,359,524
1969	145,392	38.06	4,433,406
1970	162,689	30.84	5,016,951
1971	168,835	34.51	5,827,289
1972	227,549	39.21	8,922,426
1973	183,136	48.30	8,846,112
1974	216,832	51.27	11,116,787
1975	248,854	50.61	12,595,062
1976	239,754	53.93	17,856,435
1977 (through May)	51,672	62.29	3,218,540

[1] Export totals from 1954 and 1965–76 are from U.S. Bureau of Census Records (see 32). Average prices were calculated. Export totals and average prices from 1822–64, excluding 1954, are from Hardacre (see 24).

It is important to note that the figures from 1881 to present represent sums of both wild and cultivated roots. Thus the average prices do not indicate the increasing price differences between wild roots and cultivated roots. Prices have traditionally varied with the origin and quality of the roots. The most desirable are the wild roots that are in the shape of a man.

Unfortunately, continuous data are not available to determine the quantities of wild roots exported. In 1974, Patty (see 33 and 34) noted that the U.S. Census of Agriculture reported an 88,600 pound harvest of cultivated American ginseng in 1954 (after 1954, Agriculture did not solicit data on American ginseng production). Thus in 1954, at least 23,747 pounds of wild roots were exported. In the same references, Patty estimated that over half of the roots then being exported were cultivated. In 1976, Patty (see 35) estimated that 65,000 pounds of wild roots were exported in the 1975–76 season.

Almost all of the cultivated and wild American ginseng produced in the United States is exported (see 33 and 36) to the Far East, primarily Hong Kong (see also 32). However, there appears to be a growing domestic market (presumably as a result of the increased interest in natural foods and medicines) (see 37). Much of the domestic market is satisfied by products derived from cultivated *P. ginseng* imported from South Korea. If adequate processing facilities are developed in the United States, cultivated American ginseng could become a larger factor in the domestic market.

The domestic market may never compete with the high prices offered in the Far East for wild American ginseng as long as exports continue Geczi (see 38) noted that while cultivated roots were priced at $20–$25 a pound in 1970, wild roots were bringing $40–$45. By 1974 wild roots were up to $70 per pound while cultivated were slightly less than the 1970 prices. One dealer stated orally that prices reached $125 per pound for wild American ginseng in the 1975–76 season. Another dealer stated orally that he had not paid less than $86 per pound for roots collected in the summer of 1977. Wild *P. ginseng* has been sold by the individual root for thousands of dollars (see 21, also oral communication with a dealer).

Wild American ginseng appears to be second in desirability only to wild *P. ginseng*. Whereas the market for cultivated ginseng is limited (see 39) and subject to competition from South Korea and other countries (see 33, 34, 35, and 36) there is no reason to suspect that the demand for the wild product will cease (see 21).

Traditionally American ginseng collectors have promoted the conservation of the species by digging only mature plants in the fall, and by planting the seeds (see 40). Often stands have been maintained in the forest (woodsgrown) to ensure a steady yield of roots that would simulate the desirable wild type.

However, Patty (see 34, also 40) noted: "In interviewing representatives of the U.S. trade, it appears that there is scarcity of U.S. supply of ginseng from the wild. The major reason is that gatherers tend to dig roots too early in the season—before seeds have been produced or when the roots are too young. There are also too few plants left for reproduction purposes. The high prices prevailing probably encourage this overgathering."

The ESSA is aware of similar abuses in the summer of 1977. At present large stocks of wild American ginseng are being accumulated by dealers before the plants have had a chance to fruit. It is apparent that voluntary conservation measures are not adhered to in the face of prices approaching $100.00 per pound.

Other factors causing concern for the current status of the American ginseng are the origins of the plants and the legal conditions under which the plants are gathered. Most States have trespass statutes pertaining to the protection of private plant resources. Usually these laws require, at minimum, oral permission from the landowners before wild plants can be removed from private property and in some cases require written documentation for the removal and transport of such plants. The removal of resources from most public lands similarly require written documentation. In addition, wild American ginseng is protected in at least Michigan and New York, and Wisconsin has established a collecting season. Most State officials concede that such protective statutes are difficult to enforce and are not generally adhered to by collectors. Appropirate Federal control of wild American ginseng exports may vitalize the State regulatory mechanisms.

The ESSA has received some information indicating that the number of individuals who collect American ginseng has decreased. Dr. Arnold Krochmal, U.S.D.A. Forest Service (see 41), among others, has commented that many Appalachians who traditionally collected American ginseng have moved to urban areas. Although such migrations may lessen collecting pressure in certain areas, they may or may not alleviate overall collecting pressure. In Ohio, recent Appalacian emigrants are reported to be the primary collectors. It also has been suggested that collectors are decreasing because young people do not take up the practice.

In assessing the status of the American ginseng the ESSA has relied heavily on qualitative and quantitative information in the literature, and data and opinions from professional botanists, State officials, persons involved in the ginseng trade, and other interested persons. Detailed knowledge of the distribution and population sizes of American ginseng is not available except for a few States, such as Maine, where the plant apparently has been practically extirpated.

The ESSA is aware that opinions of the plant's status vary with field experience. For example, professional botanists may be less familiar with the plant and its habitat than collectors and may be more inclined to consider the plant rare.

State lists of endangered, threatened, rare, or otherwise specially designated species are noted herein when it was known whether they included or excluded American ginseng. Most of these lists were compiled by one or more professional botanists; however, it is obvious that the content of such lists and their meaning vary depending on the expertise, experience, and the intent of the author(s). Thus, such lists and the terms used must be examined critically. (For a more thorough discussion of the problems involved in compiling such lists and the use of the descriptive terms, see 42.) In addition, although these lists are often produced by State agencies, they have

varying legal meaning. When known, legal implications will be noted along with State statutes that require written documentation for the collection of American ginseng (excluding general laws pertaining to public lands).

As previously discussed, the MA has been issuing permits for the export of wild American ginseng under the conditions specified in 42 FR 40979.

Numerous applications for permits specified the States from which roots were to be obtained. Although these applications are referred to in the State summaries, they are only referenced to indicate that the State is a commercial source.

Finding. The ESSA is unable to find that the export of American ginseng collected in the wild, except in Michigan, during the 1977–78 season after the date of this notice will not be detrimental to the survival of the species. American ginseng may be relatively abundant in some sections of some States. However, the ESSA has no alternative to this finding, in view of the overall decline in the abundance of this plan, the sustained market demand, increasing prices, continuing habitat modification, general lack of management programs or regulatory mechanisms to promote its conservation, and, most importantly, the lack of any positive evidence that the plant will not further decline because of continued export.

The ESSA is sensitive to the fact that many of the people who collect American ginseng are indigent. However, it should be clear that sustained, uncontrolled harvests of the plant cannot continue forever. As was previously discussed, there is no reason to suspect that the market for wild American ginseng will not continue. Thus the ESA urges the States to establish conservation programs and regulatory mechanisms that will enable the ESSA to modify this or future findings. The ESSA is willing to assist the States (as appropriate and within its means) in developing suitable conservation programs and regulatory mechanisms.

For the State of Michigan, the ESSA finds that export of American ginseng collected in the wild after the date of this notice in the 1977–78 season, within the State and in compliance with State law, will not be detrimental to the survival of the species. This finding results primarily from the development of a promising regulatory program by the State, for the purposes of establishing the plant's status and monitoring its harvest, to be elaborated on in the State's analysis below. However, approval of export may be withdrawn at any time, and all shipments must be accompanied by copies of Michigan permits, accounting for all roots.

Analyses by State

Below are discussions and preliminary findings by State for the bobcat, lynx, river otter, and American ginseng. Available data on season, State harvest, price, and ADC recovery (of bobcats only) are summarized for each State in a table with asterisks and associated footnotes providing additional inofrmation. Unless otherwise specified, State harvest data and price are either from Fur Catch in the United States, 1934–70, or from responses to the questionnaire of the Fur Resources Committee, International Association of Fish and Wildlife Agencies. Tabular data by State is not available for American ginseng.

Following tabular information, a narrative section is provided on each species. First, the conclusions of available scientific literature are summarized without critique. Next, a brief but critical discussion is given of available data, including the tabulated data, summarized literature, and data from other sources. For American ginseng, these two sections are combined. Last, a finding is stated. If the ESSA is unable to find that any export will not be detrimental to the survival of the species for pelts or roots taken in the State during the 1977–78 season, then the finding will be stated as "negative." A negative finding may be compelled primarily by lack of evidence, rather than evidence of a stressed or declining population, and, in such instances, the lack of adequate data will be stated in the discussion. If the ESSA finds that some level of export will not be detrimental to the survival of the species, in this notice limited to river otter pelts taken from 17 States and American ginseng collected in Michigan during the 1977–78 season, then the finding will be stated as "positive," and the allowable international export will be stated as a condition to the positive finding. For example, a finding might read: "Positive; total international export of animals taken in State X during the 1977–78 season after the date of this notice may not exceed 400."

In some cases, available information indicates that a species does not occur or is accidental or is completely protected in a State. In such cases, this fact will be stated in the discussion and the finding will be negative. Apparently, none of these four species presently occur in the District of Columbia or has ever occurred in the territories and possessions of the United States, and only for this reason are no analyses given for these jurisdictions.

Alabama

Season	Bobcat		River Otter	
	State Harvest	Price per pelt	State Harvest	Price per pelt
1960 to 1961	6		296	
1961 to 1962	19		190	
1962 to 1963	50		440	
1963 to 1964	50		339	
1964 to 1965	30		198	
1965 to 1966	83		219	
1966 to 1967	90	$1.46	321	$15.65

Bobcat

Literature Review. D. Miller, Auburn University, stated orally that bobcats in Alabama are more dense on southern managed quail plantations than on river bottom, their ideal habitat. They are less dense in the northern part of the State. Miller thought that bobcats are common despite heavy trapping. In 1971, Jenkins (see 43) noted that bobcats are widely hunted at night with lights, apparently making serious inroads in the population in certain areas of Southern Alabama.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Alabama.

In addition, Alabama has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

Lynx

Discussion. The lynx apparently does not occur in Alabama (see 16).

Finding. Negative.

River Otter

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of river otter taken in Alabama.

In addition, Alabama has not established an annual limit on river otter harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

American Ginseng

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Alabama.

Mohr (see 44, also 45) in 1890 noted that American ginseng was: "Not infrequent in rich woods through N. half of the State. Commanding a high market price, considerable quantities are exported from the mountainous region of the Tennessee basin." More recently, Delcourt and Delcourt (see 46) noted herbarium records for four counties and literature references to two additional counties.

American ginseng is included as an endangered species in "Endangered and Threatened Plants and Animals of Alabama" (see 47). Steve Guy, Alabama State Forester's Office, stated orally that American ginseng is restricted to northern Alabama and that it is rare.

The MA has forwarded to the ESSA one permit application for international export of wild American ginseng collected in Alabama.

In addition, Alabama has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Alaska

Season	Lynx		River otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1934	723		3,807	
1935	1,338		3,224	
1936	2,421		3,235	
1937	2,089		3,007	
1938	2,139		2,892	
1941	781		2,188	
1942	639		2,821	
1943	713		1,547	
1944	990		2,772	
1945	922		1,721	
1946	601		3,364	
1947	883		2,600	
1949	854		2,287	
1950	680		2,660	
1951	900		2,400	
1952	600		2,950	
1953	900		2,340	
1954 to 1955	3,100		3,100	
1955 to 1956	2,900		2,300	
1956 to 1957	2,200		3,300	
1957 to 1958	1,500		3,890	
1958 to 1959	665		1,457	
1959 to 1960	782		3,680	
1960 to 1961	900		3,500	
1961 to 1962	1,100		1,200	$17
1962 to 1963	2,500		3,000	22
1963 to 1964	4,700		2,300	25
1964 to 1965	3,957	$22	2,781	26
1965 to 1966	6,198	35	3,960	28
1966 to 1967	3,000	35	4,000	28
1967 to 1968	1,590	35	3,380	25
1968 to 1969	2,009	45	2,000	30
1970 to 1971	1,400	35	1,500	35
1971 to 1972	3,200	50	2,000	50
1972 to 1973	5,130	115	2,570	55
1973 to 1974	8,970	125	2,540	45
1974 to 1975	3,846	200	2,074	50
1975 to 1976	[1] 2,676			
1976 to 1977	[1] c.2000	[2] 350		

[1] Personal comm., R. Hinmann, Alaska Department of Fish and Game, Aug. 11, 1977.
[2] Personal comm., P. Berrie, July 15, 1977.

Bobcat

Discussion. The ESSA has no information that the bobcat occurs in Alaska.

Finding. Negative.

Lynx

Literature Review. Several studies have documented that populations of lynx cycle in response to changes in density of snowshoe hare, a major prey (see 11, 12 and 13). Early post partum mortality of kittens (probably starvation related) and reduced conception rates among yearlings may contribute to the decline in lynx populations (see 13).

Based on radio tracking data indicating that lynx in Alaska ranged further and spent more time hunting during years of low prey density, Berrie (see 12) postulated that lynx are disproportionately vulnerable to trapping in "low" years. If trapping during low years is not prohibited, he predicted that the time lag between increases of hare and lynx would lengthen causing a progressive dampening in amplitude of the lynx cycle. Thus, lynx might be reduced to isolated pockets in the remote parts of Alaska.

The last population low occurred about 1967–1970, but the fur harvest was about double that of previous lows, apparently because of increased fur prices (see 15). Most recently, Peter M. Berrie in a letter to the ESSA (see 14) reported that the lynx in central Alaska should be emerging from a low in 1977–78, complicated by apparent asynchrony of different populations in Alaska between lynx cycles (see also 15). The next general high is not expected until 1981 or 1982. A price of $350.00 per pelt prompted an intensive trapping effort last season. This year, with the pipeline construction nearing completion, Berrie predicts an increase in trapping force from rising unemployment. In addition, the capacity of individual trappers utilizing snowmobiles and new oil roads has apparently increased three times beyond the capacity of the most ambitious trapper utilizing dogs.

Discussion. State harvest records from 1934 until the present indicate a large scale variable harvest, consistently high since 1962. The trapping season was extended by two months in 1963 to meet demand for the prime pelts available in February and March, and available price information shows a high level fur price from 1965 until the present. For these reasons, current high take figures reflect increased interest in lynx fur rather than increase in population size.

In 1975, the reported State harvest dropped to 3846 following a reported harvest of 8970, the highest on record, while the price rose from $125 to $200. Although this decline may reflect a normal cyclic decline in lynx abundance, it may also reflect an overstressed population.

Alaska lynx populations appear to be at a low, probably because of normal cyclic decline, perhaps coupled with trapping pressure. Considering that lynx populations may disproportionately vulnerable to trapping in low years and that high pelt price is likely to cause intense trapping pressure in 1977–78, it is impossible to conclude that continued international export of lynx from Alaska will not be detrimental to the survival of the species.

In addition, Alaska has not established an annual limit on lynx haverst based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

River Otter

Discussion. The reported State harvest over the past forty years varied from 1200–4000, although harvest since 1968 has been generally more uniform and lower than previously.

Because reported harvest has been relatively stable and because pelt price has risen only gradually over the past 15 years, the wild population apparently can support an annual harvest. However, the consistently low yield since 1968 gives some cause for concern, and may reflect low population levels or decreased trapping effort. Because the ESSA cannot distinguish between these two factors, a positive export finding will be made but will be based upon the last 9 years reported harvest alone.

Finding. Positive; total international export of river otters taken in Alaska during the 1977–78 season after the date of this notice may not exceed 2114.

American Ginseng

Discussion. The ESSA does not have any information that American ginseng occurs in Alaska.

Finding. Negative.

Arizona

Season	Bobcat		
	State harvest	Price per pelt	ADC recovery
1957 to 1958			444
1958 to 1959			282
1959 to 1960			292
1960 to 1961			411
1961 to 1962			740
1962 to 1963			678
1963 to 1964			701
1964 to 1965			347
1965 to 1966			292
1966 to 1967			279
1967 to 1968			238
1968 to 1969			287
1969 to 1970			291
1970 to 1971			119
1971 to 1972			164
1972 to 1973			127
1973 to 1974			192
1974 to 1975			47
1975 to 1976			67
1976 to 1977	7,272		

Literature Review. In 1971, Small (see 49) reported no evidence of interspecific competition for food between bobcat and coyote or grey fox.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Arizona.

The major decrease in ADC recovery since 1964 suggests actual population de-

cline in Arizona, but the inadequacy of these data draw into question any conclusions based upon them.

Robert Jackson, Arizona Game and Fish Commission, stated orally that Arizona will establish a season for the bobcat in 1977–78 and will require a trapping license for the first time in 1978, in part to restrict trapper immigration from adjoining States. However, Arizona has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The ESSA has no information that the lynx occurs in Arizona.

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Arizona law (see 54).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Arizona.

Finding. Negative.

Arkansas

Season	Bobcat			River otter	
	State harvest	Price per pelt	ADC recovery	State harvest	Price per pelt
1958 to 1959			16		
1959 to 1960			276		
1960 to 1961	93		237	62	
1961 to 1962	79		179	71	
1962 to 1963	129		290	438	
1963 to 1964			359		
1964 to 1965	277	$1.00		64	$17.00
1966 to 1967	192	1.40		121	17.00
1968 to 1969	212	3.23		73	19.31
1969 to 1970	169	3.19		89	18.40
1970 to 1971	185	4.79		56	13.40
1971 to 1972	190	6.55		38	13.84
1972 to 1973	348	10.73		76	24.06
1973 to 1974	520	19.85		25	23.03
1974 to 1975	761	17.15		37	19.51

BOBCAT

Literature Review. In 1971, Jenkins (see 43) reported that: "Bobcat is common and widespread * * * It is generally considered a nuisance animal in Arkansas."

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Arkansas.

The bobcat harvests reported since 1972 exceed all previous reports in the last two decades, and apparently correlate directly with pelt price. In addition, Arkansas has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Arkansas (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of river otter taken in Arkansas.

The reported river otter harvest in Arkansas has been less than 100 since 1967. Furthermore, the last two years reported harvest were exceptionally low (25, 37), although pelt price was relatively high. This suggests that the population may be declining.

In addition, Arkansas has not established an annual limit on river otter harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Arkansas.

Crow (see 50) noted in the "Arkansas Natural Area Plan": "Ginseng has been dug and sold to dealers in drug plant materials over a period of many years. The extremely high prices paid for the roots of ginseng in recent years have no doubt contributed to its depletion in some sections of the State. It is still locally abundant in many upland sections of the State but is difficult to find in many areas where it formerly grew."

In a letter to the U.S. Fish and Wildlife Service (see 51), Dr. Edwin B. Smith, University of Arkansas, commented: "*Panax quinquefolius L.* is rare in Arkansas, and * * * occurs in small populations. The populations are small enough (perhaps 5–20 plants) that it is certainly in danger of local extinction. On the other hand, the few times I have seen it have always been times when I was collecting in remote areas (difficult to get into); so it may be protected more or less by its remoteness from well-traveled areas." Dr. Smith provided a map indicating the occurrence of American ginseng in 12 Arkansas counties (see also 46), but advised that the plant may occur elsewhere.

In contrast, Dr. Gary E. Tucker, Arkansas Tech University, commented (see 52) that based on his field experience, American ginseng was locally common in many upland areas of the State and the plant's present distribution was not significantly different from its historic distribution. However, he added that the plant should be protected based on its status throughout its historical range and not on a State-by-State basis. He expressed concern that substantial collecting pressures may develop in Arkansas if wild American ginseng exports were banned for numerous other States while exports were allowed for roots collected in Arkansas.

Botanists that commented on the status of wild American ginseng in Arkansas vary widely in their opinions. Some sections of Arkansas may be capable of supporting a sustained harvest of American ginseng. However, Arkansas has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

California

Season	Bobcat		
	State harvest	Price per pelt	ADC recovery
1934	1,994		
1935	1,436		
1936	2,190		
1938	2,292		
1943 to 1944	2,898		
1944 to 1945	2,036		
1945 to 1946	1,730		
1946 to 1947	1,072		
1947 to 1948	689		
1948 to 1949	169		
1949 to 1950	375		
1950 to 1951	293		
1951 to 1952	239		
1952 to 1953	336		
1953 to 1954	144		
1954 to 1955	223		
1955 to 1956	228		
1956 to 1957	276		
1957 to 1958	202		[1] 2,687
1958 to 1959	142		[1] 3,444
1959 to 1960	175		3,664
1960 to 1961	304		3,364
1961 to 1962	205	$3.27	3,375
1962 to 1963	295	2.75	[1] 3,366
1963 to 1964	361	3.35	[1] 3,327
1964 to 1965	221	4.15	
1965 to 1966	221	4.15	
1966 to 1967	192	7.97	2,386
1967 to 1968	244	13.59	2,094
1968 to 1969	381	13.93	1,363
1969 to 1970	588	10.58	
1970 to 1971	319	10.90	1,147
1971 to 1972	588	18.80	936
1972 to 1973	686	29.30	142
1973 to 1974	1,244	45.00	144
1974 to 1975	1,393	50.00	105
1975 to 1976	2,203	133.50	347

[1] Lynx and bobcat.

BOBCAT

Discussion. The data available to the ESSA are insufficient to suport a positive finding for international export of bobcat taken in California.

The major decrease in ADC recovery since 1964 suggests actual poulation decline in California, but the inadequacy of these data draw into question any conclusions based upon them. The reported State harvest declined from a high in 1943–1944 and remained low until the 1970's, when it began to rise at the same time that pelt price increased. Apparently high pelt price has intensified trapper effort.

In addition, California has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in California (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by California law (see 54).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in California.

Finding. Negative.

Colorado

Season	Bobcat		
	State harvest	Price per pelt	ADC recovery
1943 to 1944	1,146		
1944 to 1945	1,019		
1945 to 1946	833		
1946 to 1947	348		
1947 to 1948	689		
1948 to 1949	169		
1949 to 1950	375		
1950 to 1951	293		
1951 to 1952	239		
1952 to 1953	103		
1953 to 1954	46		
1954 to 1955	64		
1955 to 1956	397		
1956 to 1957	2,283		
1957 to 1958	119		2,654
1958 to 1959	328		2,535
1959 to 1960	2,186		2,035
1960 to 1961	1,116		2,286
1961 to 1962	1,396	$4.75	1,616
1962 to 1963	1,457		1,672
1963 to 1964	2,113	6.18	1,913
1964 to 1965	1,950	11.62	1,734
1965 to 1966	1,066	12.50	1,379
1966 to 1967	1,475	15.50	1,008
1967 to 1968	1,620	22.50	779
1968 to 1969	1,760	15.69	598
1969 to 1970	505	15.67	449
1970 to 1971 [1]	2,166	15.89	190
1971 to 1972	2,391	24.25	171
1972 to 1973	2,174	44.68	173
1973 to 1974	2,967	61.79	21
1974 to 1975	[illegible]	48.84	0

[1] Harvest and price data since 1970, personal comm., R. Tully, Colorado Division of Wildlife, Aug. 15, 1977.

Literature Review. In 1971, Sandfort and Tully described the bobcat as "very common," and noted that it appeared to "hold its own despite reductions induced by predator control programs" (see 55).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Colorado.

The major decrease in ADC recovery since 1958 suggests actual population decline in Colorado, but the inadequacy of these data draw into question any conclusions based upon them. State reported harvest, based upon pelts sold within the State, showed a significant drop in the 1974–75 season. However, Robert J. Tully, Colorado Department of Natural Resources, has stated orally that surveys of hunters and trappers indicated a harvest of 3678 pelts in 1974. The decreased reported State harvest in 1974–75 could have resulted from declining population, decreased sales within the State, or decreased trapper effort. Decreased trapper effort is unlikely because of high pelt price, but either decreased population size or decreased sales within the State may have contributed to the drop in reported harvest, and the ESSA is unable to distinguish between these factors. The uncertain relationship between actual harvest and reported harvest, that may be considerably lower, weakens further the usefulness of the data.

In addition, Colorado has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx is completely protected by Colorado law (see 54).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is apparently extirpated and completely protected by Colorado law (see 16 and 54).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Colorado.

Finding. Negative.

Connecticut

Season	River Otter	
	State harvest [1]	Price per pelt
1961 to 1962	2	
1962 to 1963	3	
1963 to 1964	15	
1964 to 1965	1	
1965 to 1966	7	
1966 to 1967	4	
1967 to 1968	4	
1968 to 1969	11	
1969 to 1970	15	
1970 to 1971	7	$25
1971 to 1972	14	30
1972 to 1973	7	40
1973 to 1974	10	20
1974 to 1975	15	25
1975 to 1976	11	
1976 to 1977	6	

[1] Personal comm., D. DeCarli, Connecticut Department of Environmental Protection, Aug. 8, 1977.

BOBCAT

Discussion. The bobcat is completely protected by Connecticut law (see 54).

Finding. Negative.

LYNX

Discussion. The lynx is completely protected by Connecticut law (see 54).

Finding. Negative.

RIVER OTTER

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of river otter taken in Connecticut.

Reported State harvest in Connecticut is very low, probably indicating a small river otter population, though perhaps also reflecting lack of trapper effort (see 54).

In addition, Connecticut has not established an annual limit on river otter harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Connecticut.

American ginseng is included as a State Endangered species in "Rare and Endangered Species of Connecticut and Their Habitats" (see (56): "Formerly common in rich woods and on rocky hillsides, this species is now local and rare throughout most of its range. Extermination by commercial root hunters has been held principally responsible for its present rarity in the East. Recent reports show it to be very rare and local in Connecticut." Theodore Bampton, Connecticut Department of Environmental Protection, stated orally that he was not aware of any commercial collecting activities in the State.

In addition, Connecticut has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Delaware

Season	River Otter	
	State harvest	Price per pelt
1960 to 1961	40	
1961 to 1962	36	
1962 to 1963	36	
1963 to 1964	40	
1964 to 1965	30	
1965 to 1966	50	
1966 to 1967	50	
1967 to 1968	50	
1968 to 1969	40	
1969 to 1970	30	
1970 to 1971	30	
1971 to 1972	25	
1972 to 1973	25	
1973 to 1974	25	
1974 to 1975	25	
1975 to 1976 [1]	50	c.30.00
1976 to 1977 [1]	50	c.30.00

[1] Harvest and price, data, personal comm., L. Alexander, Aug. 8, 1977.

BOBCAT

Discussion. The bobcat apparently does not occur in Delaware (see 16 and 57).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Delaware (see 16 and 57).

Finding. Negative.

RIVER OTTER

Discussion. The reported Delaware harvest since 1960 has never exceeded 50 and has been fairly regular, although based on rough estimates. In addition, the reported pelt price is not exceptionally high.

In a letter to the ESSA, H. Lloyd Alexander (see 57), Delaware Department of Natural Resources and Environmental Control, noted that river otter populations in Delaware were low during the 1960's, possibly because of pesticides. He further noted that the river otter population has recovered since the late 1960's and that trapping effort is not intense in the State.

Consequently, the ESSA is able to find that international export of river otter taken in Delaware during the 1977–78 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in Delaware during the 1977–78 season after the date of this notice may not exceed 37.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Delaware.

In 1941, Tatnall (see 58) noted that American ginseng was infrequent in the woodlands of two valleys in one county in Delaware. Dr. C. W. Dunham, University of Delaware stated orally that American ginseng has always been rare in Delaware and that he was not aware of any commercial collecting in the State.

In addition, Delaware has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Florida

Season	Bobcat		River Otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1941			506	
1942			816	
1943			609	
1944			271	
1945			192	
1946 to 1947	671		379	
1947 to 1948	1,028		375	
1948 to 1949	538			
1949 to 1950	566			
1950 to 1951	300			
1951 to 1952	300		200	
1952 to 1953	300		200	
1953 to 1954	300		800	
1954 to 1955	400		600	
1955 to 1956	400		600	
1956 to 1957	400		500	
1957 to 1958	400		500	
1958 to 1959	300		1,000	
1959 to 1960	250		750	
1960 to 1961	450		1,450	
1961 to 1962	400		1,550	
1962 to 1963			1,739	
1963 to 1964	13		2,611	
1964 to 1965	23		3,773	
1965 to 1966	23		3,809	
1966 to 1967	2		294	
1967 to 1968	400	$10.00	7,000	$25
1968 to 1969	20		296	

BOBCAT

Literature Review. In 1971, Jenkins reported that the bobcat was "common" throughout Florida, and is "in little danger," although widely hunted (see 43).

Discussion. The data available to ESSA are insufficient to support a positive finding for international export of bobcat taken in Florida.

The reported State harvest data are insufficient to assess the current status of bobcat in Florida. In addition, Florida has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Florida (see 16).

Finding. Negative.

RIVER OTTER

Literature Review. In 1963, McDaniel reported that low water levels increase the number of river otters harvested, by concentrating their prey, fish, and restricting their habitat in creeks and rivers. He recommended that trapping season be shortened during drought. McDaniel expressed doubt as to the value of State harvest reports in showing the actual harvest in Florida. In one case, a dealer revealed that he had purchased

4500 hides in 1961–1962, exceeding the harvest for the entire State (see 19).

Discussion. The data available to ESSA are insufficient to support a positive finding for international export of river otter taken in Florida.

Although Florida may be capable of supporting a sustained yield of river otter, the data are inadequate to assess the status of the species in the State. In addition, Florida has not established an annual limit on river otter harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

American Ginseng

Discussion. The ESSA has no information that American ginseng occurs in Florida.

Finding. Negative.

Georgia

Season	Bobcat		River otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1937	16		202	
1938	36		152	
1945 to 1946	574		(1)	
1947 to 1948	499		(1)	
1948 to 1949	1,000		(1)	
1949 to 1950	1,000		(1)	
1950 to 1951	1,000		110	
1951 to 1952	1,000		100	
1952 to 1953	1,000		100	
1953 to 1954	1,000		100	
1954 to 1955	1,200		300	
1955 to 1956	[2] 1,500		400	
1956 to 1957	1,500		350	
1958 to 1959			54	
1959 to 1960	12			
1961 to 1962	16		94	
1962 to 1963	20		100	
1963 to 1964			336	
1964 to 1965			886	$38.00
1965 to 1966	44		5,000	
1966 to 1967	29	$2.00	415	
1967 to 1968	300	5.50	468	22.00
1968 to 1969	300	4.00	500	22.00
1969 to 1970			713	28.00
1970 to 1971			670	22.84
1971 to 1972			222	31.17
1972 to 1973			585	30.48
1973 to 1974		19.84	453	25.49
1974 to 1975	407	16.80	624	21.87
1975 to 1976	422	17.54	495	[illegible] 82
1976 to 1977	864	40.02	947	34.13

[1] No open season.
[2] Prior to this season, trappers were not required to report.

Bobcat

Literature Review. In 1971, Jenkins reported that bobcat was common across Georgia, but particularly in the coastal plain and where protected (see 43).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Georgia. Although Georgia may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State. In addition, Georgia has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

Lynx

Discussion. The lynx apparently does not occur in Georgia (see 16).

Finding. Negative.

River Otter

Literature Review. In 1962, Golley reported that river otters were fairly common on the coastal plain and in the salt marshes, rare on piedmont just above the fall line, and absent in the northern piedmont region and in the mountains (see 59).

Discussion. The reported Georgia harvest has been consistently higher in the 1960's and 1970's than in previous years, but no specific patterns emerge that give cause for concern. Pelt price has risen only gradually over the last 10 years. Consequently, the ESSA is able to find that international export of river otters taken in Georgia during the 1977–78 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter, excluding the 1965–66 harvest which was the second highest reported for the State.

Finding. Positive; total international export of river otters taken in Georgia during the 1977–78 season after the date of this notice may not exceed 335.

American Ginseng

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of ginseng collected in Georgia.

Delcourt and Delcourt (see 46) noted American ginseng herbarium records for seven counties and literature references to two additional counties. However, in a letter to the U.S. Fish and Wildlife Service (see 60), Jerry McCollum, Georgia Department of Natural Resources, noted that the plant occurred in 26 counties. McCollum also noted that he did not consider the plant to be endangered currently, but that he thought commercial collection should be regulated to prevent the plant's status from deteriorating.

American ginseng has been included in several lists of rare and endangered Georgia plants: "Rare and Endangered Vascular Plants of Georgia," Wilbur H. Duncan (see 61); "Rare and Endangered Plant Species of Georgia," Georgia Botanical Society (see 62); and "Endangered Species of Georgia" (listed as Endangered), McCollum (see 63).

The MA has forwarded to the ESSA one permit application for international export of wild American ginseng collected in Georgia.

Mellinger (see 64) referred to the extirpation of American ginseng in one location in Georgia. The State was mentioned as a major commercial source of the roots in Wigginton (see 40).

The Georgia Wildflower Preservation Act of 1973 (see Ga. laws 1973, p. 373 et seq.) provides substantially for the conservation of plants listed as Endangered or Threatened by the Georgia Department of Natural Resources or the U.S. Department of the Interior. American ginseng is not listed under the Georgia Act; however, Jerry McCollum has stated orally that his Department was formally petitioned to list the species.

American ginseng has been considered a rare and endangered species by several professional and amateur botanists familiar with the Georgia flora. However, some sections of Georgia may be capable of supporting a sustained harvest of the plant. The Georgia Act generally prohibits taking, transport, or commerce in listed species except by permits issued by the Georgia Department of Natural Resources. Currently, American ginseng is not protected by the Georgia Act, and there is insufficient evidence to support a positive finding by the ESSA for export of wild American ginseng collected from the State. In the event American ginseng is listed under the Georgia Act, or protected by other mechanisms that would provide for its conservation and regulate its harvest in the State the ESSA may modify its finding for the 1977–78 season or subsequent seasons.

Finding. Negative.

Hawaii

Discussion. The ESSA has no information that the bobcat, lynx, river otter, or American ginseng occur in Hawaii.

Finding. Negative.

Idaho

Season	Bobcat			Lynx	
	State harvest	Price per pelt	ADC recovery	State harvest	Price per pelt
1934	11			44	
1944	[1] 1,190				
1945	700			8	
1946	800			11	
1947 to 1948				9	
1956 to 1957	346				
1957 to 1958	675		1,371	8	
1958 to 1959	802		1,418	1	
1959 to 1960	1,478		1,288	8	
1960 to 1961	1,173		965	6	
1961 to 1962	756	$4.22	925	1	
1962 to 1963	861	5.48	1,076	12	
1963 to 1964	972	5.56	886	28	
1964 to 1965	856	7.10		40	$5.64
1965 to 1966	1,161	18.10	472	4	33.50
1966 to 1967	958	10.56	301	3	23.33
1967 to 1968	935	18.62	346	9	17.80
1968 to 1969	1,191	21.38	327	59	21.82
1969 to 1970	1,318	14.02	254	70	15.29
1970 to 1971	1,318	14.02	256	70	15.29
1071 to 1972	901	21.71	104	65	22.44
1972 to 1973	901	48.00	98	52	56.19
1973 to 1974	1,173	77.66	47	15	59.37
1974 to 1975	608	58.09	20	15	82.66
1975 to 1976	467	100.21	18		228.51
1976 to 1977		159.02			214.11

[1] Lynx and bobcat.

BOBCAT

Literature Review. Bailey (see 1) studied the bobcat in a rugged area of southeastern Idaho, and he found that few kittens were trapped following a crash in the local rabbit population during the winter of 1971–72.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Idaho.

The major decrease in ADC recovery since 1958 suggests actual population decline in Idaho, but the inadequacy of these data draw into question any conclusions based upon them.

The last two State harvest reports are the lowest since 1957 despite the highest prices ever offered for bobcat pelts in Idaho. Although not conclusive, this suggests an overstressed population.

In addition, Idaho has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Literature Review. In 1971, Nellis reported that lynx were "rare to common" in Idaho: "Data are not extensive enough to show whether the lynx in the northwest is cyclic or not, but drastic fluctuations in numbers do occur." Nellis reported that the population had increased over the past thirty years, with most animals in the northern half of the State (see 65).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of lynx taken in Idaho.

Fur harvest from 1969–1975 suggests either that the population is cyclic and was at a low phase in 1974–1975 or that trapping pressure in the early 1970's, due to high prices, has reduced the population. In either case, the lynx in Idaho may be particularly vulnerable to trapping pressure at present.

In addition, Idaho has not established an annual limit on lynx harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Idaho law (see 54).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Idaho.

Finding. Negative.

ILLINOIS

BOBCAT

Discussion. The bobcat is completely protected by Illinois law (see 54).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Illinois (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Illinois law (see 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Illinois.

American ginseng was considered "infrequent" in Illinois in 1876 by Patterson (see 66). Jones and Fuller (see 67) noted that American ginseng had been collected in 29 counties. Dr. Charles Sheviak, Endangered Plant Project/Natural Land Institutes supplied herbarium records (see 68) of the plant from 57 counties. In 1959, Mohlenbrock and Voigt (see 69) noted that in southern Illinois American ginseng "is rare in moist woods. It has become uncommon because of mass collections of its roots during past years."

The Illinois Nature Preserves Commission has included American ginseng as a threatened species in an interim list of plant species, "Endangered, Vulnerable, Rare, and Extirpated Vascular Plants in Illinois" (see 61). Dr. Charles Sheviak has stated orally that the plant is rare throughout the State and could be easily extirpated except in southern Illinois. He added, however, that plant had been considered too common for inclusion in the list of endangered plants being developed by the Endangered Plant Project.

The MA has forwarded to the ESSA three permit applications for international export of wild American ginseng collected in Illinois. The State was also mentioned as a commercial source in Wigginton (see 43).

Some sections of southern Illinois may be capable of supporting a sustained harvest of American ginseng. However, the State has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

INDIANA

BOBCAT

Discussion. The bobcat is completely protected by Indiana law (see 70).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Indiana (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is apparently extirpated in Indiana and is completely protected by Indiana law (see 18, 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Indiana.

Coulter in 1900 (see 71) noted: "Found (American ginseng) only in the southern half of the State and rapidly disappearing because of its commercial value." "It is still abundant in Brown County upon the authority of W. S. Blutchley and is reported as not rare in Fayette County by Dr. Hessler. Its quantity, however, has been so greatly reduced that the 'sang' gatherers have disappeared." Coulter mentioned seven counties where the plant had been found. Forty-six years later Deam (see 72) noted: "Formerly frequent to common in rich woods throughout the State. From the earliest times it was dug for its large roots which were shipped mostly to China for use as a medicine. The earliest pioneers received

twenty-five cents a pound for the dried roots. The fact that the price has steadily advanced, until it now sells for about $15.00 a pound, has resulted nearly in its extinction."

In correspondence to the U.S. Fish and Wildlife Service (see 73), Robert D. Feldt, Indiana Department of Natural Resources, supplied several documents and correspondence concerning the flora of Indiana. Maryanne Newsom, McCormick Creek State Park (see 74) noted: "In the three years I have been at McCormick's Creek, I have seen ginseng go from being fairly easy to find to being practically non-existent. With this rapid decline in the park itself, I can well imagine what is happening to the plant in other unprotected areas. Without some form of control over the indiscriminate * * * harvesting of this plant, ginseng will very soon join the list of Endangered plants, possibly within the next five years if something is not done."

Lois M. Gray, Spring Mill Park (see 75) regarded American ginseng as abundant; however, she expressed the same concerns as Ms. Newsom.

In addition, Mr. Feldt supplied a preliminary State list entitled "Rare and Endangered Plants in Indiana," that was compiled by William B. Barnes, Director, Division of Nature Preserves. This list was limited to those plants that were recorded to occur in six or fewer counties. American ginseng was not included.

In a letter to the U.S.D.A. Foreign Agricultural Service, Andy Irbe, Danville, Indiana, commented that American ginseng does not emerge every year and the plant was producing harvestable amounts in sections of Indiana where he collected it (see 76).

Mr. Edward Hanson, Indiana Department of Natural Resources, stated orally that American ginseng under collecting pressure in certain local areas of Indiana and that the collection appeared to occur year-round.

The MA has forwarded to the ESSA three permit applications for international export of wild American ginseng collected in Illinois.

American ginseng has declined in Illinois and this decline has been attributed to collecting pressure. Some sections of Indiana may be capable of supporting a sustained harvest of American ginseng. However the State has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Iowa

BOBCAT

Discussion. The bobcat is completely protected by Iowa law.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Iowa (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is only occasionally trapped in Iowa and is or soon may be completely protected by State law.

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Iowa.

In 1899, Fitzpatrick (see 77) noted that American ginseng was "* * * becoming infrequent" (he listed nine counties where the plant occurred). Dean Roosa, Iowa Conservation Commission, stated orally that he considered the plant threatened. He further noted that he had observed it in central Iowa and that it was probably more prevalent in the more densely wooded northeastern Iowa.

The MA has forwarded to the ESSA two permit applications for international export of wild American ginseng collected in Iowa.

Some sections of Iowa may be capable of supporting a sustained harvest of American ginseng. However, the State has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

Kansas

BOBCAT

Discussion. The bobcat is completely protected by Kansas law (see 54).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Kansas (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Kansas law (see 54).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Kansas.

Finding. Negative.

Kentucky

BOBCAT

Discussion. The bobcat is completely protected by Kentucky law (see 78).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Kenutcky (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is virtually extirpated and is completely protected by Kentucky law. (See 54 and 78).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Kentucky. Braun (see 79) in 1943 recorded American ginseng in eleven counties in Kentucky. Twenty-eight years later Wharton and Barbour (see 80) noted: "The dried roots, long in demand in Chinese folk medicine and bringing a high price, have been sought, dug, and sold for export. As a result, this native species, once common in most of rich forest of the state, has been exterminated in many places and is now rare throughout Kentucky, as well as in other States. The species should be protected by law from further exploitation, and any plants to be sold should be propagated and grown commercially."

In a letter to the Smithsonian Institution (see 41), Dr. Arnold Krochmal, U.S.D.A. Forest Service supplied the following comments: "I have lived in the Appalachian region over a period of 40 years now, 17 as a student and botanist. Ginseng has always been hard to find, contributing to its high cost. The collection of gingseng has been much reduced in the past twenty years by the outmigration of Appalachian population to urban areas." He also noted that he had "seen increases in ginseng populations in Kenutcky, and * * * (could not) * * * consider it in any way endangered."

American ginseng is included as a threatened species in "A List of Rare, Threatened, or Endangered Flora in Kentucky" (see 61). The plant was not included in the "Endangered Plants and Animals of Kentucky" (see 81).

The MA has forwarded to the ESSA six permit applications for international export of wild American ginseng collected in Kentucky. Wigginton (see 40) also mentioned Kentucky as a commercial source.

The ESSA has received conflicting information on the status of American ginseng in Kentucky. The more recent comments by Krochmal indicate there may be some sections of Kentucky capable of supporting a sustained harvest of the plant. However, the State has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

Louisiana

Season	Bobcat		River otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1934			780	
1935			789	
1936			650	
1937			780	
1943 to 1944	918		2,404	
1944 to 1945	628		1,912	
1945 to 1946	1,430		2,307	
1946 to 1947	383		2,832	
1947 to 1948	69		5,078	
1948 to 1949	222		2,222	
1949 to 1950			2,988	
1950 to 1951	58		4,901	
1951 to 1952	35		4,849	
1952 to 1953	21		4,198	
1953 to 1954	5		3,884	
1954 to 1955	542		5,407	
1955 to 1956	102		4,653	
1956 to 1957	31		5,056	
1957 to 1958	200		4,382	
1958 to 1959	126		5,166	
1959 to 1960	252		5,559	
1960 to 1961	39		3,602	$17.00
1961 to 1962	41	$0.50	4,195	16.00
1962 to 1963	110	2.00	8,484	17.00
1963 to 1964	26		4,274	18.00
1964 to 1965	31	2.00	3,288	25.00
1965 to 1966		2.00	3,588	20.00
1966 to 1967	10	2.00	4,118	18.50
1967 to 1968			3,466	14.00
1968 to 1969	56	5.00	5,426	.0.00
1969 to 1970	110		6,634	23.00
1970 to 1971	55		4,808	25.00
1971 to 1972	136	[1] c. 6.00	5,440	
1972 to 1973	481	[1] c.12.00	7,668	
1973 to 1974	953	[1] c.20.00	5,989	32.55
1974 to 1975	775	[1] c.25.00	6,118	
1975 to 1976	1,269	[1] c.30.00	5,730	[1] c.23.00
1976 to 1977	5,255	[1] c.50.00	11,900	[1] c.45.00

[1] Personal comm., G. Linscombe, Louisiana Wildlife Fisheries Commission, Aug. 1, 1977.

BOBCAT

Literature Review. In 1971, Jenkins reported that bobcats in Louisiana were common and widespread (see 43). In 1976, O'Neil and Linscombe (see 82) reported that the number of bobcat pelts taken was formerly insignificant, but the increased interest in long haired furs has brought higher price and increased harvest. In 1974, Lowry reported that the bobcat was widely distributed over the State and still occurred in nearly all heavily wooded regions (see 83).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Louisiana.

Increased pelt price in the 1970's has apparently brought a dramatic and unprecedented rise in bobcat harvest. Although Louisiana may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State.

In addition, Louisiana has not established an annual limit on bobcat harvest based on the animal's populations status, although the State does tag shipments but not individual pelts.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Louisiana (see 16).

Finding. Negative.

RIVER OTTER

Literature Review. In 1974, Lowry commented that river otters were probably once distributed statewide in Louisiana, but have become local in occurrence because of major alterations in habitat. Lowry suggested that trapping in southern Louisiana does not appear to adversely affect otter numbers, but that it may be detrimental in the northern part of the State (see 83).

Discussion. Reported State harvest has been high and comparatively regular since 1944, and pelt price has changed little since 1965, excluding 1976–77. Reported State harvest and pelt price both doubled for the 1976–77 season. Greg Linscomb, Louisiana Wildlife and Fisheries Commission, stated orally that the increased harvest was probably caused by an abundance of young river otters rather than increased trapper effort. Consequently, the ESSA is able to find that international export of river otters taken in Louisiana during the 1977–78 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter, excluding the 1976–1977 harvest, which was the highest ever recorded for the State.

Finding. Positive; total international export of river otters taken in Louisiana during the 1977–78 season after the date of this notice may not exceed 3923.

AMERICAN GINSENG

Literature Review and Discussion. Data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Louisiana.

In a letter to the U.S. Fish and Wildlife Service, Dr. Mary G. Curry, VTN Louisiana Inc. (see 84) commented that American ginseng is known definitely from only one parish in Louisiana, where it is

considered rare (see also 46 and 85). She further noted: "The species should be considered threatened, if not endangered in Louisiana" (see also 85).

In addition, Louisiana has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Maine

Season	Bobcat		River Otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1934	644		148	
1935	911		170	
1936	687		164	
1937	400		166	
1942	133		129	
1943	105		89	
1944	184		120	
1945	1044		121	
1946	181		199	
1947 to 1948	178		197	
1948 to 1949	489		184	
1949 to 1950	[1] 100		195	
1950 to 1951	[1] 263		114	
1951 to 1952	[1] 83		153	
1952	438			
1953	504		271	
1954	698			
1955	667		350	
1955 to 1956			570	
1956 to 1957	[1] 695			
1957	263		442	
1959	198		416	
1960	221		357	
1961 to 1962	278	$1.35	414	$21.53
1962 to 1963	231	1.81	456	21.25
1963 to 1964	588	2.75	471	20.00
1964 to 1965	209	8.74	604	25.00
1965 to 1966	152	5.50	391	22.85
1966 to 1967	228	5.79	425	23.29
1968 to 1969	153	8.17	444	27.08
1970 to 1971	736	9.98	588	25.78
1971 to 1972	654	11.78	627	32.43
1972 to 1973	641	17.58	593	39.89
1973 to 1974	573	26.00	871	35.99
1974 to 1975	564	26.00	1007	31.83
1975 to 1976	572		[2] 446(898)	
1976 to 1977	[2] 426		[2] 581	

[1] Lynx and bobcat.
[2] Number tagged (total harvest).

BOBCAT

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Maine.

Hunt (see 86) has estimated the total Maine bobcat population to be about 4200. In 1976–77, the State established a limited season on bobcat and began requiring tags on every pelt. Furthermore, a bobcat management plan for the State would establish an ultimate management objective of 1000 bobcats harvested per year, or about 25 percent of the population.

Bobcat pelt price has recently increased in Maine, as across the United States. The potential exists for intensified trapping effort in Maine, although reported harvest has not increased since 1975, but has dropped somewhat. It would appear that Maine may be able to support a sustained annual yield of several hundred bobcats without adversely impacting the population. However, in a March 3, 1977 memorandum to the U.S. Fish and Wildlife Service, Regional Director, the U.S. Fish and Wildlife Service State Supervisor for Maine advised that overharvest may be occurring in many areas (see 87). Widespread demand for bobcat pelts may particularly increase for bobcats in any States for which international export is allowed in 1977–78. Maine has already projected harvest level by management units, and tagging of pelts is required. If Maine would establish appropriate direct limitations on harvest that would prevent overharvest from increased demand, the ESSA would approve international export of pelts taken legally in Maine and carrying Maine tags. Pending this action, the ESSA is unable to find that such international export will not be detrimental to the survival of the species.

Finding. Negative.

LYNX

Discussion. The lynx is completely protected by Maine law (see 88).

Finding. Negative.

RIVER OTTER

Discussion. The reported State harvest of river otter from 1961 through 1970 was fairly regular. From 1971 through 1975 State harvest nearly doubled with generally higher prices per pelt, and the 1974–75 season exceeded the river otter management objective for Maine by about 25 percent (see 89). The reported river otter harvests in the last two seasons returned to more typical levels, but were based on tagging data for the first time, apparently giving lower estimates than the previous reporting methods.

Maine has developed a management plan for river otter on a unit-by-unit basis, and has established a harvest of 800 animals as a management objective. However, the management plan notes that the river otter may be overexploited in some units, suggesting a need to regulate harvest by these areas, and the management plan indicates that Maine may limit the harvest in the near future to allow river otter increase. In addition, Maine now requires a tag on every river otter pelt taken in the State.

Consequently, the ESSA is able to find that international export of river otters taken in Maine during the 1977–1978 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter. Maine may have information justifying modification of this quota, and the ESSA encourages the State to submit comments on this point so that the quota will be tailored as closely as possible to the status of the river otter in Maine.

Finding. Positive; total international export of river otters taken in Maine during the 1977–78 season after the date of this notice may not exceed 354.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Maine.

In 1976, Eastman (see 90), in a report on American ginseng prepared for Maine's Critical Areas Program, noted that American ginseng was collected in Maine in the 1920's and that most of the plants in the State have been destroyed because of logging operations and ginseng collectors. In reviewing the status of the plant, Eastman found that: "A thorough review of the literature, consultations with professional and amateur botanists, and field checking indicated references to 14 stations in Maine" (eight counties; see also 91). Several professional botanists contacted by Eastman were not aware of any American ginseng in the areas of the State with which they were familiar. Eastman found only four stations which still had plants, none of which occupied more than 100 square meters.

Kartesz (see 61) noted that American ginseng was included as a rare species in "Types of Critical Areas in Maine Phase I Report." This report was prepared by Garret C. Clough and Paul R. Adamus in 1976.

Two of the four known stands of American ginseng have been registered as "Critical Areas" by the State and a third is also being considered for such designation. "Critical Areas," as designated by Maine's State Planning Office, are natural areas of Statewide importance because of their unusual natural, scenic, scientific or historical significance. Except for the registration process, the program is essentially nonregulatory.

Based on a review conducted under the direction of the Maine State Planning Office, only four stations of wild American ginseng are known in Maine. The State has recognized these stations as valuable State resources. Thus it is clear that exports of wild American ginseng

collected in Maine should not be approved by the ESSA for the 1977–78 collecting season.

Finding. Negative.

Maryland

Season	River Otter	
	State harvest	Price per Pelt
1949 to 1950	48	
1950 to 1951	329	
1951 to 1952	281	
1952 to 1953	55	
1953 to 1954	71	
1954 to 1955	98	
1955 to 1956	113	
1956 to 1957	149	
1957 to 1958	131	
1958 to 1959	99	
1959 to 1960	149	
1960 to 1961	150	
1961 to 1962	216	
1962 to 1963	241	
1963 to 1964	303	
1964 to 1965	376	
1965 to 1966	495	
1966 to 1967		
1967 to 1968	167	$18.75
1968 to 1969	319	21.00
1969 to 1970	271	25.00
1970 to 1971	131	42.00
1971 to 1972	360	55.00
1972 to 1973	218	45.00
1973 to 1974	208	40.00
1974 to 1975	141	40.00
1975 to 1976	105–130	50.00
1976 to 1977	[1] 181	[1] c.50.00

[1] Preliminary estimate, D. Pursley, Maryland Fish and Wildlife Administration, Aug. 17, 1977.

BOBCAT

Discussion. The bobcat apparently does not occur in Maryland (oral communication, D. Pursley, Maryland Fish and Wildlife Administration).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Maryland (see 16).

Finding. Negative.

RIVER OTTER

Discussion. Reported State harvest has varied irregularly since 1949, rarely exceeding 300 river otters per year. Although the reported harvest has been relatively low since 1973, this has been attributed to a decline of trapper interest in river otter. Duane Pursley stated orally that nutria and muskrat are currently very marketable in Maryland, and provide a higher return per trapper effort than river otter.

Maryland is one of the few States requiring a tag on each river otter pelt that is exported, and the reported harvest suggests that Maryland can support a limited sustained yield of river otters.

Consequently, the ESSA is able to find that international export of river otters taken in Maryland during the 1977–1978 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in Maryland during the 1977–78 season after the date of this notice may not exceed 165.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Maryland.

Shreve (see 92) in 1910 noted that American ginseng occurred throughout the mountain and midland zones, but was absent from the coastal zone. He further noted the plant was abundant in some areas, but was rare to infrequent in others, particularly in the midland zone. Bernard F. Halla, Maryland Wildlife Administration, stated orally that American ginseng was found in the three western counties of Maryland and that it was not abundant.

The MA has forwarded to the ESSA one permit application for international export of wild American ginseng collected in Maryland.

In addition, Maryland has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Massachusetts

Season	Bobcat		River Otter	
	State harvest	Price per Pelt	State harvest	Price per Pelt
1934	83			
1935	212			
1936	186			
1937	76			
1940	266			
1941	86			
1942	108			
1943	39			
1944	110			
1945				
1946	139			
1947	27			
1948	86			
1949 to 1950	75			
1950 to 1951	76			
1960 to 1961			92	
1961 to 1962			63	
1962 to 1963			48	
1963 to 1964			77	
1964 to 1965			34	
1965 to 1966			82	
1966 to 1967			82	$35.00
1967 to 1968			47	30.00
1968 to 1969				20.00
1969 to 1970			76	20.00
1970 to 1971			76	27.00
1971 to 1972			51	30.00
1972 to 1973			71	40.00
1973 to 1974	9	$40.00	66	40.00
1974 to 1975	8	24.00	66	38.20
1975 to 1976	11	[1] 41.50	[1] 103	[1] 32.68
1976 to 1977	[1] 13	[1] 78.00	[1] 108	[1] 69.96

[1] Personal comm., C. McCord, Massachusetts Department of Environmental Resources, Aug. 2, 1977.

BOBCAT

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Massachusetts.

Recent reported State harvests have been relatively low despite high prices. Massachusetts is now studying the bobcat and, effective 1977–78, will require tags on all pelts.

However, Massachusetts has not established an annual limit on bobcat harvest based upon the animal's population status.

Finding. Negative.

LYNX

Discussion The lynx is apparently extirpated in Massachusetts (see 16).

Finding. Negative.

RIVER OTTER

Discussion. Reported State harvest has varied irregularly since 1960, never exceeding 100 river otters until 1975–76. Price increased only gradually until last season, when it more than doubled. Apparently Massachusetts can support a limited sustained yield of river otters.

Consequently, the ESSA is able to find that international export of river otters taken in Massachusetts during the 1977–78 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in Massachusetts during the 1977–78 season after the date of this notice may not exceed 68.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Massachusetts.

Dr. Norton Nickerson, Tufts University, stated orally that American ginseng was harvested in Massachusetts by the bushel in the early 20th century, but it is very scarce now (for references concerning the occurrence of the plant in Massachusetts before 1915, see 93, 94, 95, and 96).

American ginseng is included as a rare species in the "List of Plant Species Which are Rare, Endangered, or Have Undetermined Status in Massachusetts" prepared by Robert W. Franzen and Hen-

ry J. Ritzer, USDA, Soil Conservation Service (see 61). The authors considered a species rare if because of its small numbers, it may become threatened with extinction due to further deterioration of the environment or other factors.

In addition, Massachusetts has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

MICHIGAN

Season	Bobcat		River Otter	
	State Harvest	Price per pelt	State Harvest	Price per pelt
1936	1,134			
1937	811			
1941 to 1942	[1] 529			
1943 to 1944	2,358		154	
1944 to 1945	2,802		160	
1945 to 1946	2,910		349	
1946 to 1947	2,363		322	
1947 to 1948	2,174			
1948 to 1949	2,063		108	
1949 to 1950	754		157	
1950 to 1951	942		339	
1951 to 1952	990		315	
1952 to 1953	1,138		329	
1953 to 1954			533	
1954 to 1955	696		434	
1955 to 1956	647		663	
1956 to 1957	880		577	
1957 to 1958			858	
1958 to 1959	200		836	
1959 to 1960			750	
1960 to 1961			923	
1961 to 1962		32.00	625	$18.00
1962 to 1963	588	3.00	547	20.00
1963 to 1964	494		485	20.00
1964 to 1965	265		825	25.00
1965 to 1966			825	25.00
1966 to 1967	400	1.50	643	16.50
1967 to 1968		2.00	815	18.00
1968 to 1969		2.00	815	18.00
1969 to 1970	300	3.00	500	20.00
1970 to 1971	300		584	
1971 to 1972	300		859	
1972 to 1973	300		1,152	
1973 to 1974	300		459	
1974 to 1975	300		600	
1975 to 1976 [2]			914	
1976 to 1977	341	40-125.00	910	

[1] From Burt (see 97).
[2] Data since 1975, personal comm., J. Bogt, Michigan Department of Natural Resources, Aug. 8, 1977.

BOBCAT

Literature Review. In 1946, Burt (see 97) noted that bobcats were formerly distributed over the entire State, but were confined to the Upper Peninsula and the northern half of the lower peninsula by 1946. He stated that they were "not too common."

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Michigan.

Reported State bobcat harvest has declined nearly tenfold in Michigan since a high of 2910 in 1945–1946, despite rising price since 1970. However, bounties paid from 1936 to 1965 rarely exceeded 500 (with the exception of 1247 in 1935; oral statement of Joe Bogt, Michigan Department of Natural Resources, 8 August 1977). From removal of the bounty in 1965 until establishment of a tagging requirement in 1976–1977, harvest was roughly estimated from informal surveys. Overall, reported bobcat harvest in Michigan is of questionable value in assessing actual population status. Although Michigan may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State.

Michigan now requires a tag on all bobcat pelts, completely protects bobcat in the southern portion of the State, and limits the open season on bobcat to the north. However, Michigan has not established an annual limit on bobcat harvest based upon the animal's population status.

Finding. Negative.

LYNX

Discussion. The lynx is completely protected by Michigan law (see 54).

Finding. Negative.

RIVER OTTER

Literature Review. In 1946, Burt noted that the river otter was once formerly distributed over the entire State and had become restricted to less densely populated areas in the Upper Peninsula and northern part of the Lower Peninsula.

He noted that the season was closed in 1925 because of reduced numbers, but it was reopened in 1940 (see 97).

Discussion. Michigan is one of the few States requiring a tag on each river otter pelt and also establishes a bag limit (one river otter per trapper in 1976–1977). These regulations, combined with the fairly regular reported harvest, suggest that Michigan can support sustained yield of river otters.

Consequently, the ESSA is able to find that international export of river otters taken in Michigan during the 1977–1978 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in Michigan during the 1977–78 season after the date of this notice may not exceed 551.

AMERICAN GINSENG

Literature Review and Discussion. In 1881, Wheeler and Smith (see 98) noted that American ginseng grew throughout Michigan: "Usually rare, but so common in places that it has been dug for profit, and nearly exterminated." They further noted the plant occurred in great abundance in one county, but eleven years later (see 99) the observation was modified, "formerly in great abundance." In 1961, Smith (see 100) noted that the plant was once very common in Michigan, but that by 1961 itwas quite rare due to overcollecting.

The MA has forwarded to the ESSA one permit application for international export of wild American ginseng collected from Michigan.

Wagner et al. (see 101) reported that American ginseng is an official Threatened species in the State of Michigan. The Michigan Endangered Species Act of 1974 (Act Number 203) considers a threatened species as one "which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." American ginseng was originally considered for endangered status; however, information acquired by the Department indicated that threatened status might be more appropriate. The Michigan Endangered Species Act of 1974 contains several provisions for the conservation of animals and plants either listed by the Department of the Interior or by the Director of the Michigan Department of Natural Resources. Section 6(1) of the Michigan Act states: "Except as otherwise provided in this Act a person shall not take, possess, transport, import, export, process, sell, or offer for sale, buy or offer to buy, nor shall a common carrier transport or receive for shipment, any species of fish, plants, or wildlife appearing in the following lists * * *"

The Michigan Department of Natural Resources is issuing collecting permits for American ginseng provided the permit holders supply the Department with data concerning the amount of plants collected, distribution and population sizes of the plants, and the name and address of the purchaser(s) and date(s) of sale(s), with the understanding that the data would not be made public. The Department intends to use the data to more accurately assess the status of the species in Michigan and to establish the appropriate collecting controls.

Because Michigan has initiated a program designed to conserve American ginseng and to regulate the harvest in order to prevent overexploitation, the ESSA is anxious to give the State's program a fair chance to become functional. However, care must be taken to ensure

that the approval of exports from this one State does not result in overcollection.

Thus, Michigan roots may only be exported if copies of the relevant Michigan permit(s) are attached to the copy of the U.S. Fish and Wildlife Service permit that must accompany each shipment. Also, as an attachment to the U.S. Fish and Wildlife Service permit, the exporter must state the number of pounds of roots included that were collected under each Michigan permit. As it becomes available, the U.S. Fish and Wildlife Service periodically will supply this information to the Michigan Department of Natural Resources.

The ESSA is working with the Michigan Department of Natural Resources to establish an appropriate quota for exports of roots collected in the 1977–78 season. Because roots are already being collected in the State and the status of the plant has not been adequately ascertained by State officials and the ESSA, the quota for this collecting season will be conservative.

When the ESSA determines the quota has been met, exports of roots collected in Michigan after the date of this notice will be closed. Because the demand for wild American ginseng is high, the quota may be filled before revised ESSA export findings are published in the Fall.

Export quotas for future collecting seasons will be determined based on current biological and commerical data including data generated by the Michigan permit system. In addition, the ESSA will require that future international exports be collected in an appropriate collection season to ensure mature plants have had adequate opportunity to reproduce.

Finding. Positive.

Minnesota

Season	Bobcat		Lynx	
	State harvest	Price per belt	State harvest	Price per belt
1934	58		10	
1935	271		84	
1937	487		114	
1938	1,017		156	
1942	231		55	
1943	450		33	
1944	1,880		20	
1945	3,085		56	
1946	2,010		57	
1947	1,294		64	
1948	1,255		24	
1949	1,866		38	
1950	2,309		0	
1951	800		157	
1952	1,519		327	
1953	1,989		70	
1954	1,392		134	
1955	1,080		135	
1956	449		283	
1956 to 1957	449		[illegible]	
1957 to 1958	[1] 1,067		0	
1958 to 1959	[2] 717		2	
1959 to 1960	441		1	
1960 to 1961	502		50	
1961 to 1962	450	$3.00	66	
1962 to 1963	264	4.00	387	
1963 to 1964	359	2.75	281	
1964 to 1965	13	17.50	33	
1965 to 1966	136	5.50	40	
1966 to 1967	70	5.00	50	
1968 to 1969	80	8.50	90	$45
1969 to 1970	75		10	
1970 to 1971	130	8.00	11	
1971 to 1972	135	12.00	175	
1972 to 1973	198	15.00	400	
1973 to 1974	111	35.00	72	
1974 to 1975	175	80.00		

[1] All harvest data after 1968–69, personal comm., David Uesall, Minnesota Division Game and Fish, Aug. 15, 1977.
[2] Number bounties.

BOBCAT

Literature Review. In 1975, the Minnesota Department of Natural Resources (see 102) reported that bobcats were formerly more abundant in southern than northern Minnesota. However, cutting of forests in northern and increased agriculture in southern have made the bobcat more common in the north, with animals now occurring only occassionally in the south. The Department report stated that annual take had dropped drastically during the past twenty years. Population apparently fluctuated with the food supply, although the bobcat population had never been studied in the State.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Minnesota.

Reported State bobcat harvest has declined over tenfold in Minnesota since a high of 3085 in 1945. Bounties may have generated the large harvest of the early years. However, reported State harvest has remained low since 1970, despite rising and quite high pelt price.

Minnesota will require tagging of bobcat pelts in 1977–78. However, the data are inadequate to assess the status of the species in the State and give cause for concern.

Finding. Negative.

LYNX

Literature Review. In 1975, the Minnesota Department of Natural Resources (see 102) reported that the lynx is a "species of changing or uncertain status. * * * Some (usually less than 100) are still taken each year by hunters and trappers." The report stated that lynx numbers have fluctuated considerably in recent years, possibly because of changes in abundance of rabbits and rodents on which it feeds, and that the species would benefit from protection by the State.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of lynx taken in Minnesota.

Finding. Negative.

RIVER OTTER

Discussion. David Uesall, Minnesota Division of Game and Fish, stated orally that the river otter will be completely protected by Minnesota law in 1977–1978.

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Minnesota.

In 1884 Upham (see 103) noted that American ginseng occurred "throughout the State, exception northwestward; local, wanting in some districts, rare northward; frequent, occasionally abundant, in the region of the upper Mississippi, and in * * * (he listed five counties)." In 1892, MacMillan (see 104) found the plant "* * * not very abundant in the Minnesota Valley." By 1969, Morley (see 105) noted that American ginseng was "now exterminated or nearly so by herb hunters * * *" in Minnesota. Monserud and Ownbey (see 106) concurred, "Now extremely rare."

American ginseng was included in the "Rare and Engandered Plants of Minnesota" prepared by Dr. Thomas Morley, University of Minnesota, in 1972 (see 61).

The Minnesota Department of Natural Resources (see 102) listed the American ginseng as a "Species of Special Interest," that is not presently endangered or threatened but is apt to become so in the near future:

> * * * (Ginseng) was once common in mature forests. It has long been collected, and is largely extirpated by people who dig for its * * * roots * * *. Clearing of forests has also been a factor * * *. Preservation of undisturbed areas of hardwood forest, and possibly some planting, should help retain it as a wild plant * * *. Ginseng should be placed on the protected wild flower list so that collection of the roots from public lands can be regulated.

In a letter to the U.S. Fish and Wildlife Service, Carrol L. Henderson (see 107), Minnesota Department of Natural Resources, commented that Dr. Morley and Dr. John Moyle both favored restrictions on international trade to protect American ginseng from overcollecting. Mr. Henderson further noted that based on

the opinions of these botanists, and on other available data, his Department endorses prohibition of exports of wild American ginseng collected in Minnesota.

Both Upham (see 103) and Nash (see 25 referred to Minnesota as a large producer of American ginseng. Upham quoted the price at about one dollar per pound. The MA has forwarded to the ESSA two permit applications for export of wild American ginseng collected in Minnesota.

Besides the lack of data that would support a positive finding by the ESSA for international export of wild American ginseng collected in Minnesota, the State endorses a prohibition on export.

Finding. Negative.

Mississippi

Season	Bobcat		River Otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1960 to 1961	126	----------	126	----------
1961 to 1962	88	----------	88	----------
1962 to 1963	100	----------	100	----------
1971 to 1972	553	----------	----------	----------
1972 to 1973	774	----------	----------	----------
1973 to 1974	1,374	----------	----------	----------
1974 to 1975	1,785	----------	----------	----------
1975 to 1976	4,374	----------	----------	----------

BOBCAT

Literature Review. In 1971, Jenkins reported that the bobcat was found in all parts of Mississippi in good numbers and it was not in any danger at that time (see 43).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Mississippi.

Reported State harvest in Mississippi has risen dramatically since 1972. In addition, Mississippi has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Mississippi (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of river otter taken in Mississippi. In addition, Mississippi has not established an annual limit on river otter harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Mississippi.

In 1971, Lowe (see 108) noted that American ginseng occurred in five counties in Mississippi. Delcourt and Delcourt (see 46) reported herbarium records for eight counties, and found literature references to four additional counties.

The plant is included in a preliminary checklist of "Rare and Endangered Species in Mississippi," compiled by Dr. Thomas M. Pullen, University of Mississippi (see 109).

In addition, Mississippi has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

MISSOURI

BOBCAT

Discussion. Effective with the 1977–78 trapping season, the bobcat has been given complete protection by Missouri law (see 110).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Missouri (see 110).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Missouri law (see 110).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. In 1886, Tracy (see 111) regarded American ginseng as "common in rich woodland. * * *" 77 year later, Steyermark (see 112) noted that the plant was: "Frequent throughout the Ozark section and in extreme eastern Missouri, rare elsewhere in the State. * * *" He further added: "The demand for this plant * * * has threatened it with extinction in many parts of Missouri. * * * Usually at any given locality in Missouri, the plants are few to several in number, and occur as scattered individuals, well separated from one another."

American ginseng is not included in the *Rare and Endangered Species of Missouri* (see 113). In a letter to the U.S. Fish and Wildlife Service, John E. Wylie (see 114), Missouri Department of Natural Resources, commented that American ginseng had reportedly become "noticeably scarcer in the last year * * *" He further noted that the decline in status may be attributed to recent drought and collecting for the foreign and domestic markets. Wylie concluded by stating that his Department would recommend a ban on American ginseng exports for at least three years. In a letter to the ESSA, Allen Brohn (see

115), Missouri Department of Natural Resources, commented that American ginseng is not considered endangered in the State, but that "* * * it is subject to substantial exploitation and numbers may be dwindling." He concurred with John E. Wylie that there should be a prohibition against the exportation of the plant.

The MA has forwarded to the ESSA four permit applications for international export of wild American ginseng collected in Missouri. Wigginton (see 40) also mentions Missouri as a commercial source.

Besides the lack of data that would support a positive finding of the ESSA for international export of wild American ginseng collected in Missouri, the State endorses a prohibition on exoprt.

Finding. Negative.

Montana

Season	Bobcat			Lynx		River Otter	
	State harvest	Price per pelt	ADC recovery	State harvest	Price per pelt	State harvest	Price per pelt
1950 to 1951	461			2			
1951 to 1952	835			17			
1952 to 1953	927			8			
1953 to 1954	1,097			21			
1954 to 1955	1,320			16			
1955 to 1956	1,209			21			
1956 to 1957	808			45			
1957 to 1958	890		841	9			
1958 to 1959	1,180		716	32			
1959 to 1960	2,000		1,115	43			
1960 to 1961	1,857		818	44		59	
1961 to 1962	855		500	35		45	
1962 to 1963	928	$4.62	565	76		51	
1963 to 1964	1,500	6.11	759	380		65	$15.85
1964 to 1965	1,220	5.46		157	$7.21	32	22.17
1965 to 1966	2,000	15.29	251	170	7.21	54	20.41
1966 to 1967	1,660	10.06	126	102	18.91	42	17.60
1967 to 1968	1,075	10.17	196	60	12.51	25	18.80
1968 to 1969	1,740	20.62	106	42	21.98	27	24.17
1969 to 1970	1,364	[1] 15.54	123	65		32	
1970 to 1971	1,364	[1] 16.85	78	65		37	
1971 to 1972	1,228	[1] 22.58	56	41	[1] 35.63	24	[1] 28.77
1972 to 1973	2,472	[1] 45.97	122	301	[1] 48.42	24	[1] 32.19
1973 to 1974	2,257	[1] 68.92	65	260	[1] 76.69	45	[1] 25.25
1974 to 1975	1,404	[1] 55.55	55	163	[1] 63.66	42	[1] 20.60
1975 to 1976	1,068	[1] 154.36		[1] 244	[1] 174.47	26	[1] 29.28

[1] Personal comm., J. Egans, Montana Fish and Game Department, Aug. 3, 1977.

BOBCAT

Literature Review. In 1977, the Montana Department of Fish and Game (see 116) commented that available data indicate that the bobcat population in Montana is "going downhill faster than Jean Claude Killy." The Department further noted that State regulation of harvest is called for.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Montana.

The major decrease in ADC recovery since 1960 suggests actual population decline in Montana, but the inadequacy of these data draw into question any conclusions based upon them.

Reported State bobcat harvest for 1950–72 frequently exceeded 1000 but not 2000 animals. However, reported harvest exceeded 2000 for two consecutive years in 1972–74, at the same time that pelt price increased dramatically, and then dropped from 1974–76, even though pelt price continued a sharp increase. These data give concern that the population may be overharvested.

In addition, Montana has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Literature Review. In 1969, Hoffman reported that lynx were most frequent in the northwestern and northcentral areas of the State, and less frequent to the south and east, being rarest in the southeast corner of Montana. This corresponds in general with the abundance of snowshoe hares in the State. Hoffman further reported that lynx had reached a peak in 1963–64, and since then had declined (see 117). In 1971, Nellis reported that lynx were "common" in Montana (see 65).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of lynx taken in Montana.

It has been reported that prior to 1940, trapping pressure probably decreased the distribution and abundance of lynx in Montana, suggesting that the lynx population, probably cyclic, is vulnerable to heavy trapping (see 65). The extremely high pelt price at present is likely to stimulate intense trapper effort.

In addition, Montana has not established an annual limit on lynx based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

RIVER OTTER

Discussion. Reported river otter harvest in Montana has never exceed 65 and has been fairly regular. In addition, price has not risen markedly.

Consequently, the ESSA is able to find that international export of river otters taken in Montana during the 1977–1978 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in Montana during the 1977–1978 season after the data of this notice may not exceed 36.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Montana.

Finding. Negative.

Nebraska

Season	Bobcat		
	State harvest	Price per pelt	ADC recovery
1943 to 1944	100		
1944 to 1945	133		
1945 to 1946	43		
1946 to 1947	14		
1947 to 1948	98		
1948 to 1949	170		
1949 to 1950	266		
1950 to 1951	33		
1951 to 1952	67		
1952 to 1953	45		
1953 to 1954	46		
1954 to 1955	84		
1955 to 1956	80		
1956 to 1957	66		
1957 to 1958	21		
1958 to 1959	90		23
1959 to 1960	59		30
1960 to 1961	59		11
1961 to 1962	60		17
1962 to 1963	14	$4.50	18
1963 to 1964	120	4.49	38
1964 to 1965	99	3.83	
1965 to 1966	87	9.75	10
1966 to 1967	70	12.33	3
1967 to 1968	96	15.38	
1968 to 1969	129	18.37	10
1969 to 1970	98	14.07	1
1970 to 1971	31	12.75	11
1971 to 1972	40	17.50	
1972 to 1973	79	25.62	6
1973 to 1974	180	53.25	2
1974 to 1975	155	41.16	4

BOBCAT

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Nebraska.

The major decrease in ADC recovery since 1964 suggests actual population decline in Nebraska, but the inadequacy of these data draw into question any conclusions based upon them.

From 1944 through 1975 the reported State harvest has varied irregularly from 14 to 266. The harvests from 1973–75 were the highest reported since 1950, and in light of the general rising trend in pelt price, these data suggest that the Nebraska bobcat may be under increased trapper pressure.

In addition, Nebraska has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Nebraska (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter apparently is extirpated in Nebraska and is completely protected by State law (see 16 and 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Nebraska.

Pound and Clements in 1900 (see 118) and Winter in 1936 (see 119) have stated that American ginseng is rare in Nebraska. In a letter to the U.S. Fish and Wildlife Service, Mr. Curtis M. Twedt (see 120), Nebraska Parks Commission commented that American ginseng occurs in three eastern counties in Nebraska. Mr. Twedt also stated orally that he was not aware of commercial harvests of ginseng in the State and that the plant was being considered for listing under the Nebraska Nongame and Endangered Species Conservation Act.

There is no evidence that would support a finding by the ESSA approving exports of wild American ginseng collected in Nebraska.

Finding. Negative.

Nevada

Season	Bobcat			River Otter	
	State harvest	Price per pelt	ADC recovery	State harvest	Price per pelt
1957 to 1958	208		3,485		
1958 to 1959			3,620		
1959 to 1960			4,077		
1960 to 1961			3,756		
1961 to 1962			2,175		
1962 to 1963			2,707		
1963 to 1964			2,696		
1964 to 1965					
1965 to 1966			1,844		
1966 to 1967			1,125		
1967 to 1968			1,029		
1968 to 1969	543		632	88	
1969 to 1970	1,473	$15.23	445	6	
1970 to 1971	1,421	15.23	383		
1971 to 1972	1,442	23.36	56		
1972 to 1973	1,517	47.75	268		
1973 to 1974	2,051	77.81	128		
1974 to 1975	1,345	58.44	34		
1975 to 1976			29		
1976 to 1977					

BOBCAT

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Nevada.

The major decrease in ADC recovery since 1960 suggests actual population decline in Nevada, but the inadequacy of these data draw into question any conclusions based upon them.

As in many other States, reported State bobcat harvest in Nevada has been high, probably largely reflecting increase in pelt price. It cannot be determined from these data whether Nevada can sustain this level yield, or greater.

In addition, Nevada has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Nevada (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of river otter taken in Nevada.

Glen K. Griffith, Nevada Department of Fish and Game, stated orally that his Department estimate 500 river otters are in Nevada, and that the population could support a sustained annual harvest of 40 to 60.

However, Nevada has not established an annual limit on river otter harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Nevada.

Finding. Negative.

New Hampshire

Season	River Otter	
	State harvest	Price per pelt
1935	45	
1936	54	
1937	37	
1938	21	
1942	40	
1943	28	
1944	45	
1945 to 1946	40	
1946 to 1947	52	
1945 to 1948	61	
1948 to 1949	116	
1949 to 1950	111	
1950 to 1951	98	
1951 to 1952	120	
1952 to 1953	107	
1953 to 1954	109	
1954 to 1955	133	
1955 to 1956	95	
1956	102	
1957	93	
1959	124	
1960	122	
1961	107	
1961 to 1962	189	
1962 to 1963	182	
1963 to 1964	196	
1964 to 1965	181	$24.27
1965 to 1966	157	28.82
1966 to 1967	119	21.28
1967 to 1968	110	24.24
1968 to 1969	150	26.56
1970 to 1971	135	26.48
1971 to 1972	157	32.26
1972 to 1973	208	36.61
1973 to 1974	186	32.75
1974 to 1975	170	26.30
1975 to 1976	181	

BOBCAT

Discussion. Mason Butterfield, New Hampshire Fish and Game Department, stated orally that the State has established a two year moratorium on bobcat harvest for 1977–1979.

Finding. Negative.

LYNX

Discussion. Mason Butterfield stated orally that the lynx is completely protected by New Hampshire law.

Finding. Negative.

RIVER OTTER

Discussion. The reported harvest of river otter in New Hampshire gradually increased from 1935 until the early 1960's, declined somewhat in the latter 1960's, then returned to the high level of the early 1960's. The price has risen little since first reported in 1964–65.

Consequently, the ESSA is able to find that international export of river otters taken in New Hampshire during the 1977–78 season will not be detrimental to the survival of the species in that State. However, the total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in New Hampshire during the 1977–78 season after the date of this notice may not exceed 114.

AMERICAN GINSENG

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in New Hampshire.

In 1924, Pease (see 121) noted two stations of American ginseng in Coos County, and regarded the plant as scarce and nearly exterminated in the State. Eight additional stations in New Hampshire are documented by herbarium specimens at the New England Botanical Club, Cambridge, Massachusetts and at the University of New Hampshire.

American ginseng was included as an endangered species in the list, "Endangered Plants of New Hampshire" developed by Albion Hodgon, University of New Hampshire (see 61).

Finding. Negative.

NEW JERSEY

BOBCAT

Discussion. The bobcat is completely protected by New Jersey law (see 122).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in New Jersey (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by New Jersey law (see 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in New Jersey.

In 1889, Britton (see 123) noted that American ginseng was very rare in New Jersey.

In 1973, Fairbrothers and Hough (see 124) listed American ginseng as a rare species in Rare or Endangered Vascular Plants of New Jersey. The authors noted that the plant occurred in three counties.

Santiago Porcella III, New Jersey Department of Environmental Protection, commented in a letter to the U.S. Fish and Wildlife Service (see 125) that American ginseng should be considered rare. He noted that the plant occurred in five counties.

Finding. Negative.

New Mexico

Season	Bobcat		
	State harvest	Price per pelt	ADC recovery
1942	7,292		
1943	3,989		
1944	4,000		
1945	5,276		
1946 to 1947	4,500		
1947 to 1948	4,000		
1948 to 1949	4,000		
1949 to 1950	3,000		
1950 to 1951	3,600		
1951 to 1952	3,500		
1952 to 1953	3,000		
1953 to 1954	2,500		
1954 to 1955	1,379		
1955 to 1956	2,075		
1956 to 1957	1,000		
1957 to 1958	209		
1958 to 1959	663		
1959 to 1960	319		1,812
1960 to 1961	267		1,873
1961 to 1962	638		1,631
1962 to 1963	732		1,240
1963 to 1964			1,388
1964 to 1965	200		1,128
1965 to 1966			839
1966 to 1967	1,500	$12.00	1,109
1967 to 1968			742
1968 to 1969			715
1969 to 1970	300	13.59	686
1970 to 1971	1,589	13.59	619
1971 to 1972			403
1972 to 1973			366
1973 to 1974	3,137	51.39	398
1974 to 1975	1,945	48.16	276
1975 to 1976			264
1976 to 1977	5,077	130.87	

Literature Review. In 1975, Findley et al, reported that bobcats are found throughout the State in almost all habitats, are probably rare on the eastern plains and at higher altitudes in the northern mountains, and are perhaps most common in rocky country from desert through the ponderosa forest (see 126).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in New Mexico.

The major decrease in ADC recovery since 1961 suggests actual population decline in New Mexico, but the inadequacy of these data draw into question any conclusions based upon them.

William S. Huey, New Mexico Department of Game and Fish, stated orally that his Department estimates approximately 50,000 bobcats are in the State and that an annual harvest of 5,000 bobcats would not be excessive. He further noted that most bobcats are taken incidental to coyote trapping, primarily conducted in habitat not optimal for the bobcat. Huey also thought that pelts should be tagged to facilitate monitoring of international exports.

New Mexico may be able to support a sustained yield of bobcat. However, the State has not established an annual limit on bobcat based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in New Mexico (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by New Mexico law (see 54).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in New Mexico.

Finding. Negative.

New York

Season	Bobcat		River Otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1934	92		242	
1935	106		215	
1936	77		500	
1937	63		163	
1938				
1939	163			
1940	203			
1941	210			
1942	72			
1943				
1944	257			
1945	153			
1946				
1947	209			
1948	251			
1949	196		128	
1950	142		78	
1951	104		217	
1952			[1] 127	
1953			292	
1954			310	
1954 to 1955			301	
1955 to 1956			301	
1956 to 1957			301	
1957 to 1958			357	
1958 to 1959			215	
1959 to 1960			308	
1960 to 1961			287	
1961 to 1962				
1962 to 1963	[2] 1760 ([3] 5800)		178	
1963 to 1964			200	
1964 to 1965			318	
1965 to 1966			344	
1966 to 1967			349	
1967 to 1968			256	
1968 to 1969			325	
1969 to 1970			263	
1970 to 1971			171	
1971 to 1972			299	
1972 to 1973	161		413	
1973 to 1974			405	
1974 to 1975			496	
1975 to 1976			533	

[1] Spring season only.
[2] Gunning figure only.
[3] Unpublished estimate.

BOBCAT

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in New York. In 1976, the bobcat was first classified as a game animal and tagging of pelts became required. However, New York has not established an annual limit on bobcat harvest based upon the animal's population status.

Finding. Negative.

LYNX

Discussion. The lynx is apparently extirpated in New York (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The reported State harvest varied irregularly between 78 and and 287 since 1949. Only in the last three reported years has the take exceeded 400 per year, perhaps because of somewhat higher prices. However, the annual reported harvest has remained fairly regular for an extended period. Apparently New York can support a sustained yield of river otters. Consequently, the ESSA is able to find that international export of river otters taken in New York during the 1977-78 season will not be detrimental to the survival of the species in that State. However, total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in New York during the 1977-78 season after the data of this notice may not exceed 272.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in New York.

In 1924, House (see 127) noted that American ginseng was "frequent as local, at least formerly so, northward in the State. Less common or rare southward to Rockland County and westward to Lake Erie." Zander (see 128) documented the distribution of American ginseng in 12 western New York counties and noted that the plants were "found at scattered locations in rich woods."

Dr. Richard S. Mitchel, New York State Museum of Science, stated orally that American ginseng has been extirpated in many areas of New York and

that it was currently restricted to relatively inaccessible areas. He further stated his understanding that the plants were collected only when mature, but he thought much of the collecting took place on public lands.

Effective September 1, 1974, New York law prohibited taking of American ginseng without the landowner's consent, and since May 25, 1976, a collecting permit has been required, issued by the New York Department of Environmental Conservation. Permits are granted for purposes of scientific research or salvage, but not for commercial harvest.

The MA has forwarded to the ESSA six permit applications for international export of wild American ginseng collected in New York.

The taking of American ginseng in New York State is generally prohibited by State law.

Finding. Negative.

North Carolina

Season	Bobcat		River Otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1941	250			
1942	153			
1944	169			
1945	100			
1946 to 1947	120			
1947 to 1948	35			
1948 to 1949	65			
1949 to 1950	36			
1950 to 1951	64			
1951 to 1952	63			
1952 to 1953	28			
1953 to 1954	9			
1954 to 1955	19			
1955 to 1956	30			
1956 to 1957	23			
1957 to 1958	9			
1958 to 1959	24			
1960 to 1961	80		1130	
1961 to 1962	105		1234	
1962 to 1963	116		1456	
1963 to 1964	148		1739	
1964 to 1965	166	$0.50	1[illegible]	[illegible]
1965 to 1966	180	2.50	1443	[illegible]
1966 to 1967			1254	[illegible]
1967 to 1968	108	2.50	1115	16
1968 to 1969	316	4.00	16.5	23
1969 to 1970	179	3.75		
1970 to 1971	179	3.75		
1971 to 1972	299	7.00	606	[illegible]
1973 to 1974	745	14.70	968	
1974 to 1975	712	[illegible]	[illegible]	[illegible]
1975 to 1976	867		878	
1976 to 1977	1100		1390	

BOBCAT

Literature Review. In 1971, Jenkins reported that the bobcat was rare or absent in much of the Piedmont, but frequent to common in the mountains and in the eastern coastal counties (see 43).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in North Carolina.

Before 1971–72, reported bobcat harvest in North Carolina exceeded 200 only in two separate seasons. However, reported harvest has increased substantially since 1973, reaching 1100 in 1976–77, and has been associated with rising price.

In addition, North Carolina has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in North Carolina (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The reported State harvest of river otter from 1961–69 was high and regular. Reported harvest declined in the early 1970's, then rose to previous levels in 1976–77. The drop in reported harvest may have been related to low price, although the data are very inadequate on this point. Apparently North Carolina can support a sustained yield of river otters.

Consequently, the ESSA is able to find that international export of river otters taken in North Carolina during the 1977–78 season will not be detrimental to the survival of the species in that State. However, total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in North Carolina during the 1977–78 season after the data of this notice may not exceed 1195.

AMERICAN GINSENG

Literature Review and Discussion. Radford et al. (see 129) noted that American ginseng occurred in 14 counties in the mountains and piedmont of North Carolina; Delcourt and Delcourt (see 46) noted herbarium records for one county and literature references to 17 additional counties; and Hardin (see 130) noted the plant occurred in 9 counties (see also 131).

Radford et al. (see 129) regarded American ginseng as rare in North Carolina. This opinion was shared by Hardin (see 132) who noted that the plant's status was the result of overcollecting.

Hardin also (see 130) included American ginseng as a species threatened throughout its range and exploited in "Endangered and Threatened Plants and Animals of North Carolina". He further noted that collecting wild American ginseng "is a very old but recently growing business which could lead to the eradication of the species in native habitats * * *" In contrast, Arnold Krochmal, U.S.D.A. Forest Service commented in a letter to the Smithsonian Institution (see 41), that he has seen increases in ginseng populations in North Carolina (refer to summary for Kentucky).

The MA has forwarded to the ESSA eight permit applications for international export of wild American ginseng collected in North Carolina. Wigginton (see 40) also noted the State was a major commercial source.

Bogue (see 133) quoted one individual who said that American ginseng was stolen from Great Smokey National Park where it was plentiful. Dr. Susan Bratton, National Park Service, stated orally that poachers are a current problem in the Park and that the plant does not occur in much of the habitat that appears suitable.

North Carolina State law (Section I, 14–129) requires written permission from landowners or an authorized agent before American ginseng can be collected in certain counties.

Some sections of North Carolina may be capable of supporting a sustained harvest of American ginseng. However, the State has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

North Dakota

Season	Bobcat		
	State harvest	Price per pelt	ADC recovery
1943 to 1944	[1] 127		
1944 to 1945	[1] 42		
1945 to 1946	[1] 96		
1946 to 1947	[1] 52		
1947 to 1948	[1] 19		
1948 to 1949	[1] 15		
1949 to 1950	[1] 9		
1950 to 1951	[1] 27		
1951 to 1952	6		
1952 to 1953	[1] 27		
1953 to 1954	[1] 25		
1954 to 1955	238		
1955 to 1956	54		
1956 to 1957	46		
1957 to 1958	51		7
1958 to 1959	14		12
1959 to 1960	77		4
1960 to 1961	64		11
1961 to 1962	67	$4.99	19
1962 to 1963	135	5.06	17
1963 to 1964	135	5.29	8
1964 to 1965	71	2.82	
1965 to 1966	178	8.92	
1966 to 1967	67	6.04	1
1967 to 1968	82	9.10	
1968 to 1969	52	10.25	
1969 to 1970	101	8.88	1
1970 to 1971	38	8.37	
1971 to 1972	91	14.89	3
1972 to 1973		25.08	0
1973 to 1974	293	50.78	0
1974 to 1975	161	44.83	0
1975 to 1976	75	94.10	
1976 to 1977			

[1] Lynx and bobcat.

BOBCAT

Literature Review. In 1961, Adams (see 134) reported that bobcats were common only in the counties adjoining the Little Missouri, Heart, Cannonball, and Missouri Rivers, occasionally along the Red River in eastern and northern North Dakota, and rare in the prairie pothole region. Because of their scarcity, they were of no major economic importance.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in North Dakota.

Apparently, bobcats have never been abundant in North Dakota. The reported State harvest has generally been low and irregular over the past thirty years, and the ADC recovery for the past twenty years has been miniscule or absent.

In addition, North Dakota has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx is apparently extirpated in North Dakota (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is apparently extirpated in North Dakota (see 16).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in North Dakota.

Finding. Negative.

OHIO

BOBCAT

Season:	State harvest
1969–70	0
1970–71	0
1971–72	0
1972–73	0
1973–74	0
1974–75	0
1975–76	

Literature Review. In 1973, Smith et al. reported that the bobcat in Ohio was "rare" (see 135).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Ohio.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Ohio (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Ohio law (see 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Ohio.

Schaffner in 1914 (see 136) considered American ginseng generally distributed in Ohio (for references concerning the occurrence of the plant in Ohio in the 19th century, see 137 and 138). Eighteen years later Schaffner (see 139) noted: "General, but now scarce."

Richard S. Moseley, Ohio Division of Natural Areas and Preserves, stated orally that American ginseng occurred in 25 counties in Ohio and that he knows of several areas in the State where the plant has been eradicated in the last eight years. He further noted that the plants were primarily collected by emigrants from West Virginia. A similar opinion was stated orally by Bob McCance and Dennis Anderson, Ohio Natural Heritage Program. Moseley added that the plant had started to flower this year in the first week of July (substantial collecting was taking place in Ohio at that time).

Dr. Thomas Cooperrider, Kent State University, stated orally that American ginseng was potentially threatened in Ohio and that commercial collecting in the State should be stopped. Dr. Charles C. King, Ohio Biological Survey, stated orally that the plant was not common and that it was being collected in parks.

In a letter to the U.S. Fish and Wildlife Service (see 140), Dennis Anderson commented that one record from the major herbaria within Ohio was dated 1892 with a note "becoming rare." He further added: "The verbal responses of a few knowledgeable field people concerning the current status and trend of the species in Ohio yielded partially conflicting reports from 'definately declining' to 'remaining about constant'. No one reported population increases and most agreed that diggers had reduced populations in at least local areas."

Wistendahl et al. (see 141) included American ginseng as an endangered species in "Rare and Endangered Plant Species of the Central Ohio Valley; A Contribution Toward a Comprehensive List for Ohio," and noted that it occurred in three counties. The plant was also included in a "Preliminary List of Rare and Endangered Species in Ohio Dicotyledoneae," compiled by Dr. Thomas S. Cooperrider (see 142).

The MA has forwarded to the ESSA seven permit applications for international export of wild American ginseng collected in Ohio.

Ohio has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Oklahoma

Season	Bobcat		
	State harvest	Price per pelt	ADC recovery
1942 to 1943	78		
1943 to 1944	142		
1945 to 1946	70		
1946 to 1947	66		
1947 to 1948	27		
1948 to 1949	20		
1949 to 1950	10		
1950 to 1951	22		
1952 to 1953	31		
1953 to 1954	12		
1954 to 1955	15		
1955 to 1956	71		
1956 to 1957	25		
1957 to 1958			198
1958 to 1959	3		273
1959 to 1960			247
1960 to 1961	12		185
1961 to 1962			216
1962 to 1963	8		167
1963 to 1964	12		372
1964 to 1965	14	$0.82	354
1965 to 1966	20	.88	216
1966 to 1967	20	.88	229
1967 to 1968	7	.75	202
1968 to 1969	50	3.50	147
1969 to 1970	45	3.75	198
1970 to 1971	45	3.75	190
1971 to 1972	49	6.21	250
1972 to 1973	199		167
1973 to 1974	725		123
1974 to 1975	1,458		94
1975 to 1976	2,302	37.28	106
1976 to 1977	3,548	55.49	

Discussion. The data available to ESSA are insufficient to support a positive finding for international export of bobcat taken in Oklahoma.

Reported bobcat harvest in Oklahoma has generally been very low, except for an enormous increase since 1972, apparently stimulated by rising price. Although Oklahoma may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State.

Ken Van Hoozer, Oklahoma Department of Wildlife Conservation, stated orally that Oklahoma will restrict the open season on bobcat in 1977–78 and is considering implementation of a tagging requirement. However, Oklahoma has not yet established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LINX

Discussion. The lynx apparently does not occur in Oklahoma (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is extirpated in Oklahoma and is completely protected by State law (see 16).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng taken in Oklahoma.

In a letter to the U.S. Fish and Wildlife Service (see 143), Dr. Jerry J. Crockett, Oklahoma State University, commented: "There is only one reported herbarium specimen of American ginseng in Oklahoma." Although believing the plant still occurs in the State, he considered it rare and in need of protection.

American ginseng is designated "Rare-1" in "Rare and Endangered Vertebrates and Plants of Oklahoma" (see 144). Rare-1 is defined as a species that "although not presently threatened with extinction, is in such small numbers that it may be endangered if its environment worsens."

Finding. Negative.

Oregon

Season	Bobcat			River Otter	
	State harvest	Price per pelt	ADC recovery	State harvest	Price per pelt
1938	1,382				
1943 to 1944	1,022			120	
1944 to 1945	810			100	
1945 to 1946	1,113			216	
1946 to 1947	867			186	
1947 to 1948	732			206	
1948 to 1949	584			156	
1949 to 1950	399			139	
1950 to 1951	456			182	
1951 to 1952	533			188	
1952 to 1953	377			201	
1953 to 1954	399			164	
1954 to 1955	492			269	
1955 to 1956	458			188	
1956 to 1957	544			282	
1957 to 1958	570		2,830	292	
1958 to 1959	1,188		2,774	254	
1959 to 1960	945		2,266	313	
1960 to 1961	1,143		2,155	350	
1961 to 1962	314	$3.73	1,989	358	$19.65
1962 to 1963	324	4.57	2,021	272	19.63
1963 to 1964	481	5.78	2,221	294	21.71
1964 to 1965	481	5.78	[illegible]	[illegible]	21.71
1965 to 1966	801	8.92	[illegible]	369	[illegible]
1966 to 1967	552	14.53	1,100	281	19.30
1967 to 1968	976	17.21	937	262	25.21
1968 to 1969	984	17.21	827	262	25.21
1969 to 1970	1,099	[illegible]	741	200	[illegible]
1970 to 1971	1,110	[illegible]	511	[illegible]	23.60
1971 to 1972	1,123	[illegible]	319	265	31.84
1972 to 1973	1,399	[illegible]	335	[illegible]	[illegible]
1973 to 1974	1,645	53.55	144	295	35.77
1974 to 1975	1,463	[illegible]	84	[illegible]	[illegible]
1975 to 1976	1,720	102.94	51	[illegible]	41.97
1976 to 1977	1,980	100.00	[illegible]	[illegible]	[illegible]

BOBCAT

Literature Review. In 1971, Ebert (see 8) reported: "The statewide population of bobcats is currently estimated to be the lowest in twenty years, *particularly in eastern Oregon.*" Ebert noted that the State bounty was removed in 1961, but ten counties continued to pay bounties of $2.00 to $4.00 in 1971. Ebert further noted that increased price had stimulated trapping of bobcat.

Discussion. The data available to ESSA are insufficient to support a positive finding for international export of bobcat taken in Oregon. The major decrease in ADC recovery since 1957 suggests actual population decline in Oregon, but the inadequacy of these data draw into question any conclusions based upon them.

The reported State harvest has varied widely since 1938, but has risen to particularly high levels in the 1970's in association with dramatic price increase. Robert Stein, Oregon Fish and Wildlife Commission, stated orally that taking of bobcat may be prohibited in eastern Oregon, where pelts are most valuable, and restricted in the West, in 1977–78.

However, Oregon has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Literature Review. In 1971, Nellis reported that lynx were "very rare" in Oregon (see 65).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of Lynx taken in Oregon.

Finding. Negative.

RIVER OTTER

Discussion. The reported harvest of river otter in Oregon has been fairly regular, with no apparent relationship to price, except perhaps in 1976–1977, when both reported harvest and price were the highest ever reported.

Robert Stein, Oregon Fish and Wildlife Commission, stated orally that the river otter was doing well in Oregon, and was particularly common in the central part of the State. Apparently, Oregon can support a sustained yield of river otters.

Consequently, the ESSA is able to find that international export of river otters taken in Oregon during the 1977–1978 season will not be detrimental to the survival of the species in that State. However, total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in Oregon during the 1977–78 season after the date of this notice may not exceed 249.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Oregon.

Finding. Negative.

PENNSYLVANIA

BOBCAT

Discussion. The bobcat is completely protected by Pennsylvania law (see 122).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Pennsylvania (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Pennsylvania law (see 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Pennsylvania.

In 1852, Noll (see 145) noted that American ginseng was not common in Pennsylvania. Other botanists have also concurred with Noll that the plant is rare or becoming so in the State (see 146, 147, 148, and 149).

Maurice K. Goddard, Pennsylvania Department of Environmental Resources, stated orally that American ginseng is common throughout Pennsylvania on specific sites; and that he did not consider collection pressure to be a significant problem at present. He further noted that most collectors are careful to conserve the plant. The MA has forwarded to the ESSA six permit applications for international export of wild American ginseng collected in Pennsylvania.

Some sections of Pennsylvania may be capable of suporting a sustained harvest of American ginseng. However, the State has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

RHODE ISLAND

BOBCAT

Discussion. The bobcat is completely protected by Rhode Island law (see 70).

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Rhode Island (see 18).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Rhode Island law (see 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Rhode Island.

Dr. Irene H. Stuckey, University of Rhode Island, stated orally that although there are herbarium records of American ginseng in Rhode Island, she considers the plant possibly extinct in the State (see also 61).

Finding. Negative.

South Carolina

Season	Bobcat		River Otter	
	State harvest	Price per pelt	State harvest	Price p e pelt
1960 to 1961			490	
1961 to 1962			450	
1962 to 1963	50		614	
1963 to 1964	26		284	
1964 to 1965	30		300	
1965 to 1966	63		415	
1966 to 1967	72	$0.50	490	$14
1967 to 1968	128	2.50	746	20
1968 to 1969	27		184	
1969 to 1970	30		200	
1973 to 1974	217		526	
1974 to 1975	371	25.00	699	35
1975 to 1976	661		753	
1976 to 1977	1,368		1,351	

BOBCAT

Literature Review. Radio tracking proved a satisfactory technique in determining bobcat movements and home ranges, but too few animals were studied over too short a span of time to contribute information useful in assessing bobcat status in South Carolina (see 150).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in South Carolina.

Reported harvest of bobcats in South Carolina has increased dramatically since 1973, apparently in response to rising pelt price.

In a letter to William C. Hickling, Area Manager, U.S. Fish and Wildlife Service, the Executive Director of the South Carolina Wildlife and Marine Resources Department, James A. Timmerman, Jr., stated that the bobcat is a game animal in South Carolina and is taken for sport hunting (see 151).

Timmerman stated that a 1972 survey indicated bobcats were common in 30 counties, occasional in 16 and nowhere rare. He added that specific population data does not exist. Kenneth B. Stansell of the same Department stated orally that bobcat as game animals cannot be sold commercially in South Carolina.

Although South Carlina may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State.

In addition, South Carolina has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in South Carolina (see 16).

Finding. Negative.

RIVER OTTER

Discussion. Reported river otter harvest in South Carolina has varied irregularly since 1960, only twice exceeding 500 before 1973. Since 1973, the reported State harvest has risen from 526 to 1351, with nearly a doubling in the last season.

South Carolina requires a tag on every river otter pelt taken, and the reported harvest suggests that South Carolina can support a sustained yield of river otters.

Consequently, the ESSA is able to find that international export of river otters taken in South Carolina during the 1977–78 season will not be detrimental to the survival of the species in that State. However, total international export may not exceed a quota established by the method described in the species summary for river otter, excluding last year's unprecedented harvest which may have been caused by high pelt price.

Finding. Positive; total international export of river otters taken in South Carolina during the 1977–78 season after the date of this notice may not exceed 430.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in South Carolina.

In Wigginton (see 40), John Droyton of South Carolina is cited as saying in 1798: "It (American ginseng) is so much sought after by the Cherokees for trade it is by no means as plentiful as it used to be in this State." Radford et al. (see 129) noted that the plant was rare in the mountains and lower piedmont of two counties in South Carolina.

In a letter to the U.S. Fish and Wildlife Service (see 152), Kenneth B. Stansell, South Carolina Wildlife and Marine Resources Department, commented that the higher plant committee of a recent symposium on endangered species, which was sponsored by Mr. Stansell's Department, designated American ginseng as threatened in South Carolina. Mr. Stansell added "this represents a consensus of opinion from extremely knowledgeable individuals in the plant field."

Dr. J. A. Timmerman, South Carolina Wildlife and Marine Resources Department, stated orally that he did not think there was much commercial activity in American ginseng in South Carolina. The MA has forwarded to the ESSA three permit applications for international export of wild American ginseng collected in the State.

Finding. Negative.

South Dakota

Season	Bobcat			
	State harvest	Bounty	Price per pelt Commercial	ADC recovery
1957 to 1958	730	$10		44
1958 to 1959	650	10		58
1959 to 1960	500	10		111
1960 to 1961	400	10		61
1961 to 1962		5		60
1962 to 1963		5		49
1963 to 1964	150	5		69
1964 to 1965	650	5		
1965 to 1966	700	5		92
1966 to 1967	650	5	$4.00	56
1967 to 1968		5		
1968 to 1969		5		47
1969 to 1970	108	5	11.36	80
1970 to 1971	198	5	11.36	35
1971 to 1972		5		13
1972 to 1973		5		
1973 to 1974	1438		68.00	11
1974 to 1975	1597		37.95	
1975 to 1976	924		132.26	
1976 to 1977 [1]	4411		165.00	

[1] Personal comm., R. Fowler, South Dakota Department of Fish and Game, Aug. 23, 1977.

BOBCAT

Literature Review. In 1976, Anderson (see 9) reported that bobcats are most abundant in the Black Hills area and breaks of the Grand, Moreau, Belle Fourche, Cheyenne, Bad and White River systems, but were quite uncommon in eastern South Dakota. He further noted that conservation officers, hunters and trappers have reported that bobcat numbers have decreased dramatically.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in South Dakota.

Reported State harvest in South Dakota is based on the number of transactions conducted by licensed fur dealers. Thus, the reported harvest may not accurately reflect the actual take in the State. For example, Ronald Fowler stated orally that the actual bobcat harvest for the 1976–77 season has been calculated to be 418. Analysis of the State harvest is further complicated by a reduction over the last three years in the length of the bobcat trapping season.

Kay Cool, South Dakota Department of Game, Fish, and Parks, stated orally that the Department is "extremely concerned" with the status of the bobcat in South Dakota. The State has established a limited season from December 15 to January 15 in 1977–78. The State will also require presentation of all animals to a State conservation officer and fixing of metal tags on all pelts before sale. In addition, teeth will be collected and used to analyze age and sex structure, and to facilitate further State regulatory decisions on bobcat.

In addition, the State has not established an annual limit based on the animal's population status.

Finding. Negative.

LYNX

Discussion. The lynx is apparently extirpated in South Dakota (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by South Dakota law (see 54).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in South Dakota.

Finding. Negative.

Tennessee

Season	Bobcat	
	State harvest	Price per pelt
1954 to 1955	6	
1955 to 1956	[1] 1	
1956 to 1957	17	
1957 to 1958	4	
1958 to 1959	4	
1959 to 1960	9	
1960 to 1961	6	
1961 to 1962	104	$1.11
1962 to 1963	33	1.28
1964 to 1965	89	1.76
1965 to 1966	109	3.27
1966 to 1967	141	1.55
1967 to 1968	57	3.21
1968 to 1969	372	6.06
1969 to 1970	12	3.44
1970 to 1971	12	
1974 to 1975	607	8.80

[1] Report from resident buyers only.

Literature Review. In 1971, Jenkins (see 43) reported that bobcat were scarce in the Nashville area, but were present over most of the rest of the State, in small numbers in the west and in Reelfoot Lake area, and common in the Great Smokies.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Tennessee. Reported State harvest in Tennessee has been very irregular, but was highest in 1969 and 1975, when reported price was highest.

William Yambert, Tennessee Wildlife Resources Agency, stated orally that the status of the bobcat in Tennessee is uncertain, but expressed concern and thought that prohibition of international exports might be called for.

In addition, Tennessee has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Tennessee (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Tennessee law (see 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Tennessee.

In 1887, Gattinger (see 153, also 154) noted that American ginseng occurred "over the State but everywhere rare." Delcourt and Delcourt (see 46) noted herbarium records for 25 counties in Tennessee. Sharp (see 155) included American ginseng in "Rare Plants of Tennessee"; U.S.D.A. Soil Conservation Service included the plant in "Rare, Threatened, or Endangered Plant Species of Tennessee" (as rare) in 1975 (see 61); and Collins et al. (see 156) included the plant as threatened in "The Rare Vascular Plants of Tennessee."

Dr. Robert Kral, Vanderbilt University, stated orally that American ginseng is no longer found in many of the areas where it has occurred or should occur in central Tennessee. He further noted that it is probably more common in eastern and western Tennessee.

The MA has forwarded to the ESSA four permit applications for international export of wild American ginseng collected in Tennessee. Wigginton (see 40) also noted that the State was a commercial source.

Bogue (see 133) quoted one individual who said that American ginseng was stolen from Great Smokey National Park where the plant was plentiful. Dr. Susan Bratton, National Park Service, stated orally that poachers are a current problem in the Park and that the plant does not occur in much of the habitat that appears suitable.

Some sections of Tennessee may be capable of supporting a sustained harvest of American ginseng. However, the State has neither management programs nor regulating mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

Texas

Season	Bobcat			River Otter	
	State harvest	Price per pelt	ADC recovery	State harvest	Price per pelt
1938	1,082				
1941	[1] 3,607				
1944	1,298				
1945	136				
1946	[2] 1,508				
1947	152				
1948	90				
1949	23				
1950	16				
1951	5				
1953	27				
1956 to 1957	3				
1957 to 1958			3,058		
1958 to 1959	52		3,436		
1959 to 1960	10		4,102		
1960 to 1961	66		4,527	149	
1961 to 1962	80	$1	4,710		
1962 to 1963	28	1	3,422		
1963 to 1964	34	1	2,958		
1964 to 1965	74	1	2,478		
1965 to 1966	34		1,769		
1966 to 1967	16		1,744		
1967 to 1968	41		1,530		
1968 to 1969	207		1,979	3	
1969 to 1970	257		2,081		
1970 to 1971			1,845		
1971 to 1972			1,772		
1972 to 1973	1,393	12	2,227		
1973 to 1974	7,145	20	1,902		
1974 to 1975	11,874	25	1,303	3	$25
1975 to 1976	9,454		1,067		
1976 to 1977	[3] 15,000				

[1] Approximately 50 pct of dealers reported.
[2] Approximately 80 pct of dealers reported
[3] Preliminary data, personal comm. Uzzel, Aug. 15, 1977.

BOBCAT

Literature Review. In 1971, Russell (see 157) reported that bobcat occurred in "relatively high stable numbers throughout the State, in spite of habitat changes and hunting pressures." He considered the species reasonably secure.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Texas.

Over the last decade, reported State bobcat harvest in Texas has increased nearly a thousandfold, presumably reflecting increased pelt price. Although Texas may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State.

In addition, Texas has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Texas (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of river otters taken in Texas.

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Texas.

Finding. Negative.

UTAH

BOBCAT

Discussion. Donald A. Smith, Utah Division of Wildlife Resources, stated orally that the bobcat will be completely protected by Utah law in 1977–78.

Finding. Negative.

LYNX

Discussion. The lynx is completely protected by Utah law (oral statement, D. A. Smith, and see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Utah law (oral statement, D. A. Smith, and see 16).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Utah.

Finding. Negative.

Vermont

Season	Bobcat		River Otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1937	15			
1964 to 1965	[1] 261			
1968 to 1969	155			
1969 to 1970	[2]			
1972 to 1973			11	
1973 to 1974			27	
1974 to 1975			28	
1975 to 1976 [3]	81			

[1] Bountied animals only.
[2] Bounty removed.
[3] 1st yr that hunter and trapper reports required.

BOBCAT

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Vermont.

Walter Cabell, Vermont Fish and Game Department, stated orally that beginning in the 1977–78 season, tags will be required on all bobcat pelts. However, almost no data is available on State harvest, and Vermont has not established an annual limit on bobcat harvest based on the animal's population status.

Finding. Negative.

LYNX

Discussion. Walter Cabell, Vermont Fish and Game Department, stated orally that lynx are completely protected by Vermont law.

Finding. Negative.

RIVER OTTER

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of river otters taken in Vermont.

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Vermont.

In 1900, Brainerd et al. (see 158, also 25 and 159) noted that although American ginseng was "formerly common," it was then "rapidly disappearing." In 1967, Seymour (see 160) expressed a similar opinion regarding collectors as the primary reason for the decline. He further noted that the plant occurred in seven counties.

Brian Stone, Vermont Department of Forests, Parks and Recreation, after consulting with several botanists familiar with the State's flora, stated orally that American ginseng could be considered a marginally threatened species in Vermont. The plant appears to be neither rare nor common and collecting pressure is apparently light. Designation as a threatened species would primarily be justified by the potential threat of additional collecting pressure as there is substantial habitat available. One botanist told Stone the plant is probably increasing. Opinions differed as to whether the primary collectors were those that had collected the roots for years or individuals who had become recently interested in the alleged medicinal values of the plant.

Vermont requires written permission from private landowners or authorized agents for public lands before more than one individual plant or two cuttings of protected species can be removed. American ginseng is not included in the list of protected plants.

Some sections of Vermont may be capable of supporting a sustained harvest of American ginseng. However, the State has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

Virginia

Season	Bobcat		Otter	
	State harvest	Price per pelt	State harvest	Price per pelt
1942			148	
1943	123			
1943	134		210	
1944	189		1,279	
1945	157		555	
1947 to 1948	100		217	
1948 to 1949	146		332	
1949 to 1950	68		508	
1950 to 1951	56		469	
1951 to 1952	75		313	
1952 to 1953	39		387	
1953 to 1954	27		436	
1954 to 1955	80		476	
1955 to 1956	37		319	
1956 to 1957	96		298	
1957 to 1958	13		235	
1958 to 1959			209	
1959 to 1960	24		256	
1960 to 1961	3		432	
1961 to 1962	37		546	
1962 to 1963	30		351	
1963 to 1964	51		1,136	
1964 to 1965	98		1,800	
1965 to 1966	135		1,290	
1966 to 1967	117	$1.42	1,406	$20.34
1967 to 1968	78	1.45	559	15.10
1968 to 1969	47		807	
1970 to 1971	59	2.98	890	23.43
1971 to 1972	82		648	
1972 to 1973	255	15.97	482	31.50
1973 to 1974	232	22.71	575	29.22
1974 to 1975	370		612	
1975 to 1976	451	27.56	594	27.35

BOBCAT

Literature Review. In 1971, Jenkins (see 43) reported that the bobcat was common in the mountains of Virginia, but uncommon over most of the rest of the State.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Virginia.

Reported bobcat harvest in Virginia has been irregular and never exceeded 189 before 1972. Since 1972, reported harvest has steadily risen along with increasing pelt price. Although Virginia may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in Virginia (see 16).

Finding. Negative.

RIVER OTTER

Discussion. Reported Virginia harvest of river otters has varied irregularly since 1938. Mr. McInteer, Virginia Commission of Game and Inland Fisheries, stated orally that State harvest reports above 1000 are suspect and probably reflect multiple sales of individual pelts rather than actual harvest. He also stated that river otters in Virginia are in fairly good shape and locally abundant.

Apparently, Virginia can support a limited sustained yield of river otters. Consequently, the ESSA is able to find that international export of river otters taken in Virginia during the 1977–1978 season will not be detrimental to the survival of the species in that State. However, total international export may not exceed a quota established by the method described in the species summary for river otter, but omitting from the calculation all reported harvests in excess of 1000, which may be artifactual.

Finding. Positive; total international export of river otters taken in Virginia during the 1977–78 season after the date of this notice may not exceed 396.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Virginia.

Massey (see 161) noted that American ginseng occurred in 13 counties in Virginia, and Harvill (see 162) noted the plant was local in the piedmont in 4 counties.

American ginseng was included as a depleted species in the list "Endangered Status of Virginia Flowering Plants," developed by Dr. Leonard V. Uttal, Virginia Polytechnic Institute and State University in 1972 (see 61).

The MA has forwarded to the ESSA seven applications for international export of wild American ginseng collected from Virginia.

In addition, Virginia has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Washington

Season	Bobcat			Lynx		River Otter	
	State harvest	Price per pelt	ADC recovery	State harvest	Price per pelt	State harvest	Price per pelt
1937	[1] 24						
1944 to 1945	1,305						
1946	1,151						
1947	1,365						
1948 to 1949	156						
1949 to 1950	74						
1956 to 1957	1,674						
1957 to 1958			75				
1958 to 1959	1,673		119				
1959 to 1960	1,584		133				
1960 to 1961	1,427		129			595	
1961 to 1962	211		107	2		424	
1962 to 1963	241		91	8		512	
1963 to 1964	384		109	9		1,002	
1964 to 1965	386	$4.00	26			788	$29.00
1965 to 1966	844	6.00	81	9		718	
1966 to 1967	770	5.00	75	22		1,110	26.00
1967 to 1968	510	10.00	51	8		750	18.00
1968 to 1969	733	23.00	57	9		876	28.00
1969 to 1970	416		46	15		359	32.00
1970 to 1971	416		14	15		359	
1971 to 1972	844		14	12		597	
1972 to 1973	511		11	10		557	
1973 to 1974	1,087		9	7		635	
1974 to 1975	820		7	38		691	
1975 to 1976 [2]	1,035	[3] 160.95 [4] 67.74		35	150.91	601	55.10
1976 to 1977	1,650			100	203.54	1,290	79.09

[1] Dealer reports only.
[2] Data since 1975, personal comm., R. Lorson, Washington Deprtment of Game.
[3] East.
[4] West.

BOBCAT

Literature Review. In 1971, Sweeney (see 10) analyzed bobcat bounty, hunter and trapper harvest records for Washington State from 1935–76, discussing several factors he considered pertinent to an assessment of the current bobcat status. From 1963–64 to 1971–72, the projected number of bobcats harvested (a statistic compiled from number of bobcats reported, number of trappers licensed, number of trappers reporting) increased statewide, while the number of trappers decreased. Therefore, the catch per trapper was found to increase throughout the period.

In 1972, the number of licensed trappers increased (781 to 1100) and continued to increase through 1974. This may have been due to an increase in bobcat fur prices ($13.10 in 1970; $106.95 in 1975–76) or a general increase in trapper income in 1971–72. While the bobcat harvest continued to rise after 1972, the number of bobcats per trapper levelled off and then decreased through 1975–76. If individual trapping effort (which the author did not measure) had increased, the decrease in trapper success is even more dramatic.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Washington.

The major decrease in ADC recovery since 1960 suggests actual population decline in Washington, but the inadequacy of these data draw into question any conclusions based upon them.

Reported bobcat harvest in Washington reached a peak of 1650 animals in 1976–77, at the same time pelt prices rose to an unprecedented level. Furthermore, Ralph Larson, Washington Department of Game, stated orally that this figure represented trapping alone, and that another 4,400 animals were taken by hunting.

Although Washington may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State.

In addition, Washington has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Literature Review. In 1971, Nellis reported that the lynx were "rare to common" in Washington (see 65).

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of lynx taken in Washington.

Reported harvest of lynx in Washington has been generally low and irregular, but has risen over the last three years, presumably in response to high prices.

In addition, Virginia has not established an annual limit on lynx harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

RIVER OTTER

Discussion. Reported harvest of river otters in Washington has varied irregularly since 1960 and generally exceeded 500 but seldom a thousand individuals. Apparently Washington can support a sustained yield of river otters, although the very high reported harvest of 1976–77, in association with the highest price reported, suggests the need for close monitoring of the population in the future.

Consequently, the ESSA is able to find that international export of river otters taken in Washington during the 1977–78 season will not be detrimental to the survival of the species in that State. However, total international export may not exceed a quota established by the method described in the species summary for river otter, excluding the 1976–77 reported harvest which is the highest on record.

Finding. Positive; total international export of river otters taken in Washington during the 1977–78 season after the date of this notice may not exceed 618.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Washington.

Finding. Negative.

Season	Bobcat	
	State harvest	Price per pelt
1937	575	
1943	81	
1944	53	
1945	69	
1946	88	
1948	50	
1949	23	
1951	11	
1953	1	
1954	9	
1955	7	
1955 to 1956	7	
1957 to 1958	3	
1958 to 1959	2	
1960 to 1961	[1] 8	
1961 to 1962	74	$1.43
1962 to 1963	20	1.36
1963 to 1964	53	1.56
1964 to 1965	15	2.00
1965 to 1966	32	1.66
1966 to 1967	20	1.91
1967 to 1968	47	3.22
1968 to 1969	49	3.78
1969 to 1970	36	3.32
1970 to 1971	36	3.33
1971 to 1972	32	5.48
1972 to 1973	79	12.27
1973 to 1974	157	20.97
1974 to 1975	272	15.08
1975 to 1976 [2]	308	34.33
1976 to 1977	446	46.95

[1] Not including fur sold out of State.
[2] Data since 1975, personal comm., J. Ruckel, West Virginia Department of Natural Resources, Aug. 8, 1977.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in West Virginia.

Reported harvest of bobcat in West Virginia has varied irregularly and, excepting 1937, did not exceed 100 until 1973–74. Since 1973–74 the reported harvest has risen to 446, apparently in response to rising price.

Jim Ruckel, West Virginia Department of Natural Resources, stated orally that West Virginia requires tagging of bobcat pelts and plans to establish a bag limit of two animals per trapper in 1977–78. However, West Virginia has not established an annual limit on bobcat harvest based on the animal's population status.

Finding. Negative.

LYNX

Discussion. The lynx apparently does not occur in West Virginia (see 16).

Finding. Negative.

RIVER OTTER

Discussion. The river otter is apparently extirpated in West Virginia and is completely protected by State law (see 16, 54).

Finding. Negative.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in West Virginia.

In 1950, Core (see 163) noted that American ginseng was found throughout West Virginia, but that it was "becoming rare." Straughsbaugh and Core (see 164) concurred and added that the decline was due to collectors.

In a letter to the U.S. Fish and Wildlife Service, Dr. Dale E. Pike (see 165), West Virginia Department of Natural Resources, supplied information that American ginseng occurred in 23 counties, based on herbarium records, the literature, and sightings. He also commented:

> Undoubtedly ginseng is much more widespread in West Virginia than the records we have indicate. It is our feeling that the species could become very rare in the state, if not completely extirpated in some localities because of commercial collecting. It may be of interest that a check of our morning paper's classified section contained an advertisement offering $72 a pound for ginseng. We have no idea of how many persons in the State deal in this product—certainly there are several around the state.

Core (see 166) included American ginseng in "Rare and Endangered Plant Species in West Virginia": "rare in most sections because of digging of the roots * * * It was probably found in every county in this State at one time."

The MA has forwarded to the ESSA eight permit applications for international export of wild American ginseng collected in West Virginia. Wigginton (see 40) also noted that West Virginia is a commercial source.

West Virginia law requires written permission from landowners or appropriate agents before any plants can be damaged or collected within 100 yards of any public road, or possessed or transported on public roads in the State. (Acts of West Virginia 11th session 1872–73 Chap 158 also requires the consent of landowners in Pocahontas, Greenbrier and Webster Counties before ginseng or other medical roots can be collected on their land.)

Although West Virginia may be capable of supporting a sustained yield of American ginseng, the data are inadequate to assess the status of the species in the State.

In addition, West Virginia has neither management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate harvest.

Finding. Negative.

Wisconsin

Season	Bobcat		River Otter [1]	
	State harvest	Price per pelt	State harvest	Price per pelt
1927 to 1928			52	
1928 to 1929			68	
1929 to 1930			338	
1930 to 1031			402	
1931 to 1932			361	
1932 to 1933			198	
1933 to 1934	[2] 302		208	
1934 to 1935	[2] 428		175	
1935 to 1936	[2] 513		224	
1936 to 1937	[2] 461		314	
1937 to 1938	[2] 593		156	
1938 to 1939			142	
1939 to 1940			444	
1940 to 1941			188	
1941 to 1942			203	
1942 to 1943	[2] 191		117	
1943 to 1944	[2] 765		135	
1944 to 1945	[2] 384		171	
1945 to 1946	[2] 1048		291	
1946 to 1947	[2] 577		484	
1947 to 1948	[2] 427			
1948 to 1949	[2] 437		324	
1949 to 1950	[2] 482		472	
1950 to 1951	[2] 525		497	
1951 to 1952	[2] 724		461	
1952 to 1953	[2] 740		643	
1953 to 1954	[2] 361		607	
1954 to 1955	[2] 524			
1956 to 1957	321		574	
1957 to 1958			1,366	
1958 to 1959			1,097	$22.39
1959 to 1960	479		737	26.05
1960 to 1961	869		842	19.16
1961 to 1962			267	19.25
1962 to 1963			498	20.00
1963 to 1964			841	22.00
1964 to 1965			571	20.00
1965 to 1966			759	20 00
1966 to 1967			620	21.60
1967 to 1968			958	21.50
1968 to 1969			355	30.00
1969 to 1970	148		561	24.25
1970 to 1971	148		483	30.00
1971 to 1972	147		960	38.55
1972 to 1973	1,087		1,179	42.74
1973 to 1974			1,472	
1974 to 1975	205		1,209	
1975 to 1976	233	$49.51	853	

[1] River otter data, before 1970, from Wisconsin Dept. Nat. Res.
[2] Bobcat and lynx.

BOBCAT

Literature Review. Jackson (see 167) reported that whereas in 1850 bobcats were distributed throughout the State, in 1961 they were found chiefly above the 45° N. latitude. Jackson claimed that bobcats cycle in abundance, and that in peak years there are "possibly some 2500–3000 bobcats in the entire State."

In 1976, the Wisconsin Department of Natural Resources published a report, written by William A. Creed and James E. Ashbrenner, on the status of the bobcat in the State (see 168). The authors noted that the status of the bobcat was considered "questionable" by the Department's Endangered Species Committee in 1973, but they concluded that the species is apparently stable, with potential for population increase because of increasing favorable habitat. Creed and Ashbrenner further noted that additional restrictions on harvest did not appear necessary at that time, although they expressed concern that female bobcats appeared to be particularly susceptible to trapping. They concluded that the bobcat is "currently secure in Wisconsin, and that current regulations (including mandatory registration) should be continued until new information indicates further restrictions are needed."

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Wisconsin.

In a letter to the ESSA (see 169), Anthony S. Earl, Wisconsin Department of Natural Resources, stated that the "harvest of bobcat is somewhat consistent, and we do not feel it is necessary to curtail out state shipments of Wisconsin bobcat pelts, * * *"

Wisconsin has established a two and a half month season on the bobcat in 1977–78, and requires a tag on every pelt.

Bobcat pelt price has recently increased in Wisconsin, as across the United States. The potential exists for intensified trapping effort in the State, although reported harvest has not increased over the last several years. It would appear that Wisconsin may be able to support a sustained annual yield of bobcats without adversely impacting the population. However, widespread demand for bobcat pelts may particularly increase for bobcats in any States for which international export is allowed in 1977–78. If Wisconsin would establish appropriate direct limitations on harvest that would prevent overharvest from increased demand, the ESSA would approve international export of pelts taken legally in Wisconsin and carrying Wisconsin tags. Pending this action, the ESSA is unable to find that such inter-

national export will not be detrimental to the survival of the species.

Finding. Negative.

LYNX

Discussion. The lynx is completely protected by Wisconsin law (see 169 and 170).

Finding. Negative.

RIVER OTTER

Literature Review. Jackson (see 167) noted that river otters were formerly not uncommon throughout Wisconsin, but were almost extirpated by the early 1900's. In 1956, Knudson (see 171) noted that trappers' responses to questionnaires suggested that the otter population had increased to at least a few thousand individuals in spite of an annual trap harvest of 300–600 individuals.

The Wisconsin Department of Natural Resources has published a report on the status of river otter in the State (see 172). The report noted that the river otter population has been increasing, but that there was no practical way to estimate population sizes except based on harvest records. The report recommended that the river otter populations be "observed more scientifically than in the past and if a large decrease in the population is noted that steps be taken to giving the animal complete or partial protection for a few trapping seasons."

Discussion. Reported State harvest has varied since 1928, usually not exceeding 900 river otters per year. Since 1972, harvests have been consistently high with the general rise in pelt prices, except for a drop in the 1975–76 season. Wisconsin requires a tag on every pelt. Because the reported State harvest has been relatively stable, it appears that Wisconsin can support a limited sustained yield of river otters.

Consequently, the ESSA is able to find that international export of river otters taken in Wisconsin during the 1977–78 season will not be detrimental to the survival of the species in that State. However, total international export may not exceed a quota established by the method described in the species summary for river otter.

Finding. Positive; total international export of river otters taken in Wisconsin during the 1977–78 season after the date of this notice may not exceed 458.

AMERICAN GINSENG

Literature Review and Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of American ginseng collected in Wisconsin.

In 1938, Fassett (see 173) noted that American ginseng was becoming rare in Wisconsin. (For references concerning the occurrence of the plant in Wisconsin in the 19th century, see 174 and 175.)

American ginseng is listed as a threatened species in "Endangered and Threatened Vascular Plants in Wisconsin" (see 176).

In a memorandum to Ron Nicotera, Wisconsin Department of Natural Resources (see 177), Robert H. Read, Wisconsin Department of Natural Resources, commented that although American ginseng is rare in Wisconsin, he knew of a few places, all on public land, where it was somewhat common. He expressed concern about the threat of collecting, but did not know if there were enough plants in the State to make collecting economically worthwhile.

The MA has forwarded to the ESSA three permit applications for international export of wild American ginseng collected in Wisconsin.

Destruction or removal of certain plants from private or public lands is prohibited by Wisconsin law unless written permission is obtained from the landowner or appropriate agent. American ginseng is not one of the protected plants. However, Wisconsin (94.36) has established a collecting season from August 1 to January 1.

Some sections of Wisconsin may be capable of supporting a sustained harvest of American ginseng. However, the State does not have adequate management programs nor regulatory mechanisms to promote the conservation of American ginseng and to regulate a harvest.

Finding. Negative.

Wyoming

Season	Bobcat		
	State harvest	Price per pelt	ADC recovery
1957 to 1958	1,566		1,880
1958 to 1959	104		1,995
1959 to 1960	167		2,244
1960 to 1961			2,273
1961 to 1962	37		1,362
1962 to 1963	72		1,556
1963 to 1964	12		1,706
1964 to 1965	63	$10.00	1,308
1965 to 1966	4,600		1,024
1966 to 1967	2,294	[1] 20.00	789
1967 to 1968	4,000		669
1968 to 1969	3,212		882
1969 to 1970	3,053	[1] 36.00	1,189
1970 to 1971			906
1971 to 1972			379
1972 to 1973			511
1973 to 1974	3,032		303
1974 to 1975			222
1975 to 1976			201
1976 to 1977	2,650		

[1] From Crowe, 1975.

BOBCAT

Literature Review. In 1975, Crowe (see 3) reported that in Wyoming, most bobcats mate in March and most young are born within two weeks of June 1. Analysis of 81 reproductive tracts indicated that all females including those born the previous spring ovulated during the breeding season, and that litter size averaged 2.79 kittens. Crowe suggested that annual mortality is less than three percent, among adults in unexploited populations, and concluded that in exploited populations high trapping mortality would obscure such a low death rate during early adulthood. However, Crowe reported that mortality among juveniles is highly veriable, with years of low and years of high juvenile survival directly associated with prey densities.

Crowe assumed that ADC recovery represents a constant percentage of the wild population. He concluded that increased trapping pressure requires more sophisticated management, and that as of 1974, bobcat numbers were at a low point.

Discussion. The data available to the ESSA are insufficient to support a positive finding for international export of bobcat taken in Wyoming.

Bobcat populations in Wyoming appear to vary inversely with density of prey populations and with trapping pressure. The major decrease in ADC recovery since 1961 suggests actual population decline in Wyoming, but the inadequacy of these data draw into question any conclusions based upon them. Although Wyoming may be capable of supporting a sustained yield of bobcat, the data are inadequate to assess the status of the species in the State.

In addition, Wyoming has not established an annual limit on bobcat harvest based on the animal's population status, nor has the State established a tagging system to enforce such limits.

Finding. Negative.

LYNX

Discussion. Earl Thomas, Wyoming Game and Fish Department, stated orally that the lynx is completely protected by State law.

Finding. Negative.

RIVER OTTER

Discussion. The river otter is completely protected by Wyoming law (see 54).

Finding. Negative.

AMERICAN GINSENG

Discussion. The ESSA has no information that American ginseng occurs in Wyoming.

Finding. Negative.

Publication of these preliminary findings has been approved unanimously by the members of the Endangered Species Scientific Authority.

Dated: August 24, 1977.

WILLIAM Y. BROWN,
Executive Secretary, Endangered Species Scientific Authority.

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